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ALAMEDA POINT
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FINAL

SITE INSPECTION REPORT
WESTERN BAYSIDE AND BREAKWATER BEACH
ALAMEDA POINT, CALIFORNIA

Contract No. N47408-01-D-8207

DCN: BATT-8207-0085-0001

Project No. G486085

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October 2007

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NO ACTION CONCURRENCE AND CLOSE-OUT DOCUMENTATION
WESTERN BAYSIDE AND BREAKWATER BEACH
ALAMEDA POINT, ALAMEDA, CALIFORNIA

This document presents the No Action Concurrence and Close-Out Documentation for Western Bayside and Breakwater Beach at the former Naval Air Station Alameda, currently called Alameda Point, in Alameda, California. This document was prepared in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The objective of this Site Inspection (SI) investigation is to determine whether further evaluation is warranted at Western Bayside and Breakwater Beach as part of the CERCLA process and whether the sites pose concerns to human health or the environment. The SI investigation process involved obtaining and evaluating all sediment and biological data available for these sites and assessing the nature and extent of sediment-associated chemicals that may pose an unacceptable risk to human and ecological receptors. Based on the ecological and human health risk assessments conducted, the Navy and regulatory agencies determined No Action was appropriate for these two sites.

The signatures below document the concurrence by the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, and Water Board on No Action for Western Bayside and Breakwater Beach.

Mr. Thomas L. Macchiarella Base Realignment and Closure Environmental Coordinator Base Realignment and Closure Program Management Office West Department of the Navy	Oct 16, 2007 Date
for Mr. Michael M. Montgomery Branch Chief, Superfund Federal Facilities and Site Cleanup Branch, Region 9 United States Environmental Protection Agency	10/18/07 Date
Mr. Anthony Landis, P.E. Chief, Northern California Operations, Office of Military Facilities California Environmental Protection Agency Department of Toxic Substances Control	10-22-07 Date
Mr. Bruce Wolfe Executive Officer San Francisco Bay Water Board	10/24/07 Date

APPROVAL PAGE

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Contract No. N47408-01-D-82070085

Project No. G486085

Battelle Project Manager:	Heather Thurston Ms. Heather Thurston	10/26/07 Date:
Battelle Group Manager, Monitoring Team:	Jeanine Boyle Ms. Jeanine Boyle	10/26/07 Date:

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EXECUTIVE SUMMARY

This Site Inspection (SI) Report was prepared for the Base Realignment and Closure Program Management Office West under Contract No. N47408-01-D-8207 in support of the offshore evaluations at Western Bayside and Breakwater Beach at the former Naval Air Station Alameda, currently called Alameda Point, in Alameda, California. This Site Inspection Report was prepared in accordance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidance and takes into account current conditions as well as proposed future uses.

The primary objective of this Site Inspection Report is to determine whether further evaluation is warranted at Western Bayside and Breakwater Beach as part of the CERCLA process or whether the sites pose no concerns to the public health or the environment and may be removed from further consideration. Analytical results from both historical sediment samples and recent sediment samples collected in June 2005 were evaluated in this Site Inspection Report to assess the nature and extent of sediment-associated chemicals that may pose an unacceptable risk to human and ecological receptors.

The Site Inspection Report uses all sediment and biological data available for these sites for the purpose of determining the nature and extent of contamination, as well as the potential for human and ecological risks. Specific objectives of this Site Inspection include the following:

- Describe the history and nature of past waste handling practices;
- Describe known sources of contamination and transport mechanisms;
- Identify and describe human and environmental risks at or near the sites; and
- Recommend whether further action is warranted at these sites.

Site Setting

Alameda Point is located on the western end of Alameda Island, which lies on the eastern side of San Francisco Bay, adjacent to the City of Oakland. Alameda Point is rectangular, with dimensions of 2 miles long from east to west and 1 mile wide from north to south, and occupies 1,734 acres of land. The south-western tip of the original Alameda peninsula was used as agricultural land prior to development as an industrial, ferry, and transit center in the late 1800s. From the 1850s, Alameda Point was used for whaling oil operations until 1869 when the Alameda Point Ferry was built. In the northern section of the point, railroad yards and rights-of-way for Southern Pacific, Central Pacific, and small local railways were built over the land and the sloughs.

Western Bayside

Western Bayside is located along the western and southern edge of Alameda Point. It is not identified as an Installation Restoration (IR) site. The site is approximately 1.1 miles long from north to south. It includes the offshore areas west of IR Sites 1 and 2 and extends eastward along the southern shoreline to include the offshore area between IR Site 2 and IR 17 (historically referred to as the South Shore). The majority of this area is subtidal with a maximum water depth of about 22 feet (ft). Riprap lines the shoreline of Western Bayside, resulting in limited intertidal areas. At low tide, small areas of beach are exposed. The majority of the land adjacent to Western Bayside is associated with the 1943-1956 Disposal Area (IR Site 1) and the West Beach Landfill (IR Site 2), active from 1957 to 1978. Proposed future land use of the onshore areas adjacent to Western Bayside consist of recreation and open space including a Bay Trail, shoreline park, and Point Alameda Regional Park. The Bay Trail is the main feature planned to run the length of Oakland Alameda Estuary to allow full public access to the shoreline, whereas the tip of Alameda Point will be preserved as a regional park for fishing and other recreational uses. South of the point, the open areas will be used for recreational sports including potential construction of soccer and baseball fields and a golf course.

Breakwater Beach

Breakwater Beach is located in the southeastern part of Alameda Point, just south and east of IR Site 24 (Pier Area). It is not identified as an IR site. The site is approximately 0.5 miles long and includes a beach and an offshore area that extends from the southern shoreline of Alameda Point to a long breakwater south and southeast of a turning basin. The western boundary of the site is located just east of Pier 3 of IR Site 24 and runs perpendicular to the shoreline out to the breakwater. The remainder of the site is bounded by the shoreline and the breakwater. A recreational picnic area and a small marina are located at the northwest end of the beach. Proposed future land use of the onshore areas north of Breakwater Beach consist of a regional park, including shoreline access and recreation, beach uses, tent camping sites, and a recreational vehicle park.

Previous Investigations

Western Bayside

Environmental data were collected at Western Bayside in 1993/94, 1996, and 2005. In 1993, sediment samples were collected around the shoreline of Western Bayside near storm water outfalls, culverts, a leachfield, and other onshore features associated with drainage from the land to define the horizontal and vertical extent of contamination. Surface sediment grab samples were collected at 13 locations, and core samples were collected at 6 locations for chemical analysis, *Macoma nasuta* bioaccumulation testing, and toxicity tests. Surface water samples were also collected at three locations in Western Bayside as part of the 1993/94 ecological assessment.

After the initial ecological assessment was conducted in 1993/94, data gaps in the original study were identified and addressed in a follow-on ecological assessment in 1996. Twenty two surface sediment grab samples were collected, including at three locations selected to address spatial gaps and at three storm-sewer outfalls. Three samples were also collected from the South Shore area. Samples were analyzed for the same chemical analytes as the 1993/94 data, plus the addition of sulfides and volatile organic compounds; however, no additional bioassay or bioaccumulation studies were performed.

Additional data were collected in 2005 to better define the spatial and vertical extent of sediment contamination, to analyze contaminants of potential concern in sediment to support ecological and human health risk assessments, and to determine if potential migration of contaminants from onshore sources have impacted the sediment, resulting in unacceptable risks along Western Bayside. Sediment grab and core samples were collected at 22 stations in a systematic grid pattern along the shoreline. Some of the stations were located adjacent to groundwater monitoring wells, a culvert, and the beach area.

Breakwater Beach

Offshore sediments at Breakwater Beach were sampled in 1996, 1998, and 2002. The initial ecological assessment of aquatic and wetland areas at NAS Alameda conducted in 1993/94 recommended sediment sampling at Breakwater Beach, given the depositional nature of the area and the presence of several outfalls along the shoreline. The objectives of the 1996 investigation at Breakwater Beach were to determine the potential impact of storm water outfalls along the shoreline on sediment quality and whether potentially contaminated sediment from adjacent areas had been transported to and redeposited at Breakwater Beach. Surface sediment was collected at 21 stations along transects from each of the outfalls, and chemical analyses and pore water and invertebrate bioassay testing were performed. Chemical analyses were also conducted on four mussel tissue samples collected from Breakwater Beach in 1996.

An additional five sediment grab samples were collected at Breakwater Beach in 1998 to investigate possible relationships between chemical concentrations in sediment and biological effects. Chemical analyses, toxicity tests, and 28-day *Macoma nasuta* bioaccumulation tests were performed.

Review of the biological testing conducted during the previous studies indicated a high level of uncertainty associated with the historical amphipod bioassays conducted in 1993/94 and 1998. Battelle conducted a supplemental amphipod toxicity study in the summer of 2002 to determine whether Alameda offshore sediment was toxic to amphipods when confounding factors were appropriately controlled and to support toxicity and sediment chemistry lines of evidence in characterizing offshore areas that may pose an unacceptable risk to benthic invertebrates. Surface sediment was collected from five previously sampled stations at Breakwater Beach, analyzed for selected contaminants of potential concern, and tested for amphipod toxicity.

Data Characterization

Analytical results for sediment samples collected in previous Navy investigations were compiled and loaded into a centralized database prior to data evaluation, along with data collected as part of the June 2005 investigation. During the site inspection investigation, samples were collected and analyzed for polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), pesticides, and inorganic constituents (metals). Three separate data sets for Western Bayside were evaluated, representing different time periods and exposure scenarios. These data sets were:

1. All Years: All historical surface sediment (0-5 centimeters [cm]) data at a particular site.

2. 2005 Surface: All the surface data (0-5 cm) collected in 2005.

3. 2005 Subsurface: Deeper sediments (5-25 cm) collected in 2005 requested by regulatory agencies to be evaluated in the ecological risk assessment. It also includes deeper core intervals (25-50 cm) collected in 2005, to help bound the vertical extent of contamination.

No data were collected in 2005 at Breakwater Beach. Data collected in 1996 provide the greatest spatial representation (surface and depth) of Breakwater Beach, and more recent surface sediment data were collected in 1998 and 2002. Therefore, only one data set, All Years, which included all historical surface sediment data, was evaluated for Breakwater Beach. It should be noted that the depth of the surface interval collected at Breakwater Beach in 1996 was much deeper (0 – 91 cm) than that collected in 1998 (0 – 6 cm) and 2002 (0 – 5 cm).

Western Bayside

Surface sediment concentrations for all inorganic and organic constituents were below ecological screening benchmark values, the effects range-median (ER-M) values, in all 2005 samples, except for nickel, where site concentrations were less than ambient concentrations. No inorganic constituents exceeded ambient concentrations in 2005 surface sediment samples except for silver at one location, which was less than the ER-M value. When data from All Years were evaluated, only chromium and antimony were statistically greater than ambient conditions and only in the 1993/94 data set. It should be noted that the antimony concentrations in 1993/94 were determined to be erroneous. Chromium concentrations in the 1993/94 data set were less than the ER-M value. In the subsurface sediment, no

ER-M values were exceeded for inorganic constituents, except for nickel, which was less than the ambient concentration. Pesticides (other than Total DDx, which refers to a combination of the pesticides dichlorodiphenyltrichloroethane [DDT] and its metabolites dichlorodiphenyldichloroethylene [DDE] and dichlorodiphenyldichloroethane [DDD]) were infrequently detected in Western Bayside sediment. No pesticides, PCBs, or PAHs in surface sediment exceeded ER-M values during the 2005 sampling event. When data from All Years were evaluated, PAHs and Total DDx were elevated in surface sediments compared to ambient conditions, but only 4,4'-DDT exceeded its respective ER-M value at one location in 1996. In the subsurface sediment, one sampling location had concentrations of 4,4'-DDT greater than the ER-M, and one location had concentrations of several PAHs that exceeded ER-M values. The 2005 sampling stations that are located adjacent to onshore groundwater monitoring wells did not detect locally elevated or unacceptable concentrations of chemicals of potential concern (COPCs). In addition, there is no indication that discharges, runoff, or groundwater has resulted in contaminant levels in offshore sediments that pose an unacceptable risk.

Breakwater Beach

No ER-M values were exceeded in surface sediment for any inorganic constituents or organic chemicals, except for nickel, during any sampling event. Nickel was the only analyte at Breakwater Beach that exceeded its ER-M in surface sediment, but nickel concentrations at Breakwater Beach were not different from San Francisco Bay ambient nickel concentrations. Based on the All Years data set, cadmium, chromium, copper, lead, mercury, selenium, and silver appeared elevated at Breakwater Beach compared to ambient conditions. Statistical comparisons to ambient could not be conducted for the majority of organic chemicals at Breakwater Beach due to insufficient numbers of detections in all years sampled. Of those detected in enough surface sediment samples to support statistical comparisons, Total low molecular weight PAHs (LPAHs), Total high molecular weight PAHs (HPAHs), Total PAHs, and four individual PAH constituents (benzo(a)pyrene, benzo(b)fluoranthene, fluoranthene, pyrene) were elevated compared to ambient conditions, but were less than ER-M values. Highest concentrations of PAHs were observed along the Breakwater Beach shoreline adjacent to outfalls O and P. In the subsurface sediment, no ER-Ms were exceeded for inorganic constituents except for nickel (which was less than ambient), and the only organic chemical that exceeded the ER-M was Total PCBs at one location.

Human Health Risk Assessment

The human health risk assessment was conducted following methodology recommended by U.S. Environmental Protection Agency and Department of Toxic Substances Control guidance documents as outlined in the *Offshore Sediment Study Work Plan*. Standard regulatory dose relationships were incorporated and cumulative risks, as well as comparisons to reference conditions, were evaluated. Risks associated with reference were based on data collected from 10 locations within the San Francisco Bay that are believed to represent ambient or background conditions.

Western Bayside is a region of open bay water adjacent to the northern and western edges of Alameda Point. The majority of this area is subtidal with a maximum water depth of about 22 ft. Riprap lines the shoreline of Western Bayside, resulting in limited intertidal areas. At low tide, small areas of beach are exposed. The proposed future onshore land use for much of this area is a wildlife refuge, limiting the possibility that this area will be developed for human use. The Breakwater Beach area consists of the beach located east of the turning basin and an offshore shallow area extending from the southern shoreline of Alameda Point to a long breakwater southeast of the turning basin. Currently, the southern shoreline of Alameda Point also includes a recreational picnic and beach area. There is no actual or anecdotal evidence to indicate that individuals are actually harvesting and consuming shellfish from these areas; however, shellfish have been observed along the shoreline areas and could be accessible to individuals wishing to harvest them.

Based on this information, indirect exposures to chemicals associated with the consumption of shellfish were evaluated for both Western Bayside and Breakwater Beach. It was assumed that direct exposures to sediments, such as through dermal contact or incidental ingestion of sediment, might occur during recreational activities, such as walking along the beach or wading along the shoreline. However, direct exposure to sediment by recreation users is considered minimal. It is assumed that any risks associated with recreational exposure to sediment would be accounted for by evaluating exposures from direct contact with sediments during clamming activities. Indirect exposure via fishing was also evaluated for both Western Bayside and Breakwater Beach; however, though it is considered a complete exposure pathway, risk associated with ingestion of local catch is a bay-wide issue and was not considered a primary pathway at these study sites. Direct contact with surface water was identified as a complete pathway, but water is not considered a primary exposure medium due to the rapid dilution resulting from tidal action and San Francisco Bay currents. In addition, activities associated with shellfish collection would occur at low tide, further limiting contact with surface water. The COPCs are persistent, hydrophobic chemicals primarily associated with the sediments. As a result, water concentrations, and therefore, exposures of these compounds are negligible compared to sediments. Consequently, exposures to chemicals via surface water were not proposed for quantitative evaluation.

Risks and hazards to humans from chemicals in Western Bayside and Breakwater Beach sediments are similar to risks and hazards from reference conditions and do not pose an unacceptable risk to human health. Reasonable maximum exposure (RME) and central tendency exposure (CTE) hazard indices for all three exposure pathways were less than one, except for the shellfish consumption RME hazard index at Breakwater Beach and the fish consumption RME hazard index at Western Bayside and Breakwater Beach, which were all less than reference. Arsenic, chromium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and Total PCBs had individual RME cancer risks greater than 1×10^{-6} for at least one of the three exposure pathways at one of the study sites. However, these risks were either similar to (or lower than) RME reference risks, or were less than 1×10^{-6} under average exposure (i.e., CTE) conditions. Arsenic was the main contributor (76 – 97%) to potential cancer risk for all three exposure pathways at Western Bayside and Breakwater Beach. Total cumulative risks for each of the exposure scenarios, as well as the total site risk and hazard, at Western Bayside and Breakwater Beach were similar to or less than those for reference conditions. Risks estimated for radionuclides at Western Bayside were found to be lower than acceptable risk levels for residents (10^{-6}).

Given that the majority of assumptions regarding exposure point concentrations (EPCs) and exposure parameters made in the human health risk assessment are conservative and tend to overestimate exposure and risk/hazard (see Section 7.3), the incremental risks and hazards to the defined receptor populations from exposure to chemicals of concern at Western Bayside and Breakwater Beach are likely to be overestimated. This is especially true in the case of arsenic, which was the main contributor to cancer risk and non-cancer hazards for all exposure pathways at both Western Bayside and Breakwater Beach. The conservative assumption that all of the arsenic present in fish and shellfish tissue is the more toxic inorganic form likely overestimates arsenic risk and hazard by 90%. In addition, the human health risk assessment conservatively assumed that 100% of the fish and shellfish consumption exposures were associated with the study sites. Based on the conservative assumptions of the human health risk assessment, and the fact that total risks and hazards (for both individual exposure pathways and all pathways combined) were similar to or less than reference risks and hazards, it is concluded that there are no unacceptable risks to human health at Western Bayside and Breakwater Beach. It is recommended that no action is required at both sites.

Ecological Risk Assessment

To evaluate potential risks to ecological receptors, a tiered process was used that encompasses the eight steps consistent with the U.S. Environmental Protection Agency and Navy guidelines. In the first tier, the problem formulation was developed, including a conceptual site model, identification of chemicals of concern, and a screening-level risk estimate using conservative screening parameters was conducted. Based on the results of this conservative screening, the exposure assumptions and chemicals of concern selection were refined further in a baseline ecological risk assessment. Risks then were characterized for each of the endpoints. Three assessment endpoints were evaluated in this assessment including: (1) risks to benthic invertebrates; (2) risks to fish; (3) and risks to fish-eating (e.g., cormorant) and benthic-feeding (e.g., surf scoter) birds, including potential special status species.

As part of the first tier, sediment concentrations were compared to conservative, direct contact toxicity screening benchmarks. A majority of the compounds for all three data sets (All Years, 2005 Surface, and 2005 Subsurface) were carried on to the site-specific baseline risk assessment at both sites. Additionally, there were numerous analytes that were detected in sediment but had no benchmarks for comparison. Therefore, benthic invertebrate and fish were recommended for further evaluation in the site-specific baseline risk assessment. Similarly, the food-chain screening-level risk estimate for birds also indicated that a number of chemicals at both Western Bayside and Breakwater Beach should be evaluated further in the baseline risk assessment.

In the baseline risk assessment, the preliminary problem formulation was refined and then measurements of exposure and effects were refined and integrated into a characterization of risk that included a comprehensive discussion of the potential uncertainties associated with the assessment. Based on this refined evaluation, risks to all three assessment endpoints were determined to be acceptable for both the All Years and 2005 data sets. Therefore, based on the results of the screening-level and baseline ecological risk assessments, it was concluded that there are no unacceptable risks to ecological receptors at Western Bayside or Breakwater Beach. No action is recommended.

Conclusions

The ecological and human health risk assessments conducted for Western Bayside and Breakwater Beach indicate that risks associated with both sites are minimal. No unacceptable risks were identified for any of the ecological receptors, and human health risks were all determined to be consistent with ambient conditions. Multiple lines of evidence support the no unacceptable risk conclusion, including comparison to screening benchmarks, toxicity bioassays, dose modeling, current sediment concentrations, and a conservative comparison to background values. Based on this information, no action is recommended for Western Bayside and Breakwater Beach.

CONTENTS

APPENDICES

FIGURES

TABLES

ABBREVIATIONS AND ACRONYMS

ADD	average daily dose
AE	assessment endpoint
AET	apparent effects threshold
AF	adherence factor
Ag	silver
AL	Alcatraz Environs
ARRA	Alameda Reuse and Redevelopment Authority
As	arsenic
ASTM	American Society for Testing and Materials
AT	averaging time
ATSDR	Agency for Toxic Substances and Disease Registry
AVS	acid volatile sulfide
AWQC	ambient water quality criteria
BAF	bioaccumulation factor
BERA	baseline ecological risk assessment
BCT	BRAC cleanup team
BF	Bay Farm
BOD	biological oxygen demand
BPTCP	Bay Protection and Toxic Hot Spot Cleanup Program
BRAC	Base Realignment and Closure
BTAG	Biological Technical Assistance Group
BW	body weight
CA	California
Cal/EPA	California Environmental Protection Agency
Cd	cadmium
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cm	centimeters
CNO	Chief of Naval Operations
COE	(United States) Corps of Engineers
COPC	contaminant of potential concern
COPEC	contaminant of potential ecological concern
Cr	chromium
CSF	cancer slope factor
CSM	conceptual site model
CTE	central tendency exposure
CTV	critical tissue value
Cu	copper
CV	coefficient of variation
DAF	dermal absorption factor
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DDx	a combination of the pesticides DDT, DDE, and DDD
DFA	United States Department of Food and Agriculture
DHS	California Environmental Protection Agency Department of Health Services
DL	detection limit

DMI	dry matter intake
DON	(United States) Department of the Navy
DSM	Data Summary Memorandum
DTSC	Department of Toxic Substance Control
DW	dry weight
EC_{50}	effective concentration to cause 50% mortality
Eco-SSL	ecological soil screening level
ED	exposure duration
EF	exposure frequency
EPC	exposure point concentration
ERED	Environmental Residue and Effects Database
ER-L	effects range-low
ER-M	effects range-median
ERA	ecological risk assessment
ERM-Q	effects range median-quotient
ERV	ecotoxicity reference value
ET	exposure time percentage
FDEP	Florida Department of Environmental Protection
FI	fraction ingested
FMR	field metabolic rate
FS	Feasibility Study
ft	feet
g	gram
GGAS	Golden Gate Audubon Society
GI	gastrointestinal
GIS	Global Information System
GS	*gamma* shielding factor
HEAST	Health Effects Assessment Summary Tables
Hg	mercury
HI	hazard index
HPAH	high molecular weight PAH
HQ	hazard quotient
IR	Installation Restoration
IRIS	Integrated Risk Information System
kg	kilogram
kJ	kilojoules
km	kilometer
LADD	lifetime average daily dose
LOAEL	low observed adverse effects level
LOEC	lowest observed effect concentration
LPAH	low molecular weight PAH
m	meters

ME	measurement endpoint
mg	milligram
MSD	minimum significant difference
MVUE	minimum variance unbiased estimates
NAS	Naval Air Station
NEC	no effect concentration
NEESA	Naval Energy and Environmental Support Activity
ng	nanogram
Ni	nickel
NOAA	National Oceanic and Atmospheric Administration
NOAEL	no observed adverse effects level
NOEC	no observed effect concentration
OEHHA	Office of Environmental Health and Hazard Assessment
OR	Oregon
ORIA	Office of Radiation and Indoor Air (EPA)
ORNL	Oak Ridge National Laboratory
OU	Operable Unit
PA	preliminary assessment
PAH	polynuclear aromatic hydrocarbon
Pb	lead
PC	Paradise Cove
PCB	polychlorinated biphenyl
PCDD	polychlorinated dibenzo-*p*-dioxin
PCDF	polychlorinated dibenzofuran
pCi	picoCuries
PEA	Preliminary Endangerment Assessment
PEL	probable effect levels
PMO	program management office
ppb	parts per billion
PRC	PRC Environmental Management, Inc.
PRG	preliminary remediation goal
PSEP	Puget Sound Estuary Program
QA	quality assurance
RAGS	Risk Assessment Guidance for Superfund, Part D
RCRA	Resource Conservation and Recovery Act
RfD	reference dose
RI	remedial investigation
RME	reasonable maximum exposure
RMP	Regional Monitoring Program
ROC	receptors of concern
RR	Red Rock
SA	surface area (skin)
Sb	antimony
SE	standard error
Se	selenium

SFEI	San Francisco Estuary Institute
SLERA	screening-level ecological risk assessment
SI	site inspection
SUF	site use factor
SVOC	semi-volatile organic compound
SWAT	Solid Waste Assessment Test
SWI	sediment-water interface
TCDD	tetrachlorodibenzo-*p*-dioxin
TEL	threshold effect levels
TEQ	toxic equivalents
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TRV	toxicity reference value
TtEMI	Tetra Tech EM, Inc.
ug	micrograms
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UCL	upper confidence limit on the mean
UTL	upper tolerance limit
VOC	volatile organic compound
WOE	weight of evidence
Zn	zinc
95% UCL	95 percent upper confidence limit on the mean

1.0 INTRODUCTION

This Site Inspection (SI) Report was prepared for the Base Realignment and Closure (BRAC) Program Management Office (PMO) West under Contract No. N47408-01-D-8207 in support of the environmental evaluations of Western Bayside and Breakwater Beach at former Naval Air Station (NAS) Alameda, currently called Alameda Point, in Alameda, California (CA). The SI is being performed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to support the transfer and reuse of the property by the Alameda Reuse and Redevelopment Authority (ARRA).

1.1 Regulatory Context and Status of Alameda Point

The Initial Assessment Study conducted by the Navy (Naval Energy and Environmental Support Activity [NEESA], 1983) identified 12 sources of potentially hazardous waste at NAS Alameda, 4 of which were recommended for further investigation under the Navy Assessment and Control of Installation Pollutants program. The California Environmental Protection Agency (Cal/EPA) Department of Health Services (currently the California Department of Health Services) issued a Remedial Action Order to the Navy in 1988 requiring additional investigations at Alameda Point (DHS, 1988). In fulfilling this Remedial Action Order, the Navy identified 34 sites (Installation Restoration [IR] Sites 1 through 35; IR Site 18 was eliminated) as CERCLA/IR sites between 1988 and 2004 (Tetra Tech EMI, Inc. [TtEMI], 2003).

In September 1993, the United States Congress and Base Realignment and Closure Commission designated the former NAS Alameda for closure. NAS Alameda ceased naval operations in April 1997. The Navy is currently in the process of transferring the land to the City of Alameda and other federal agencies. On July 22, 1999, Alameda Point was placed on the National Priorities List (64 Federal Register 140, 39878–39885, Final Rule, July 22, 1999).

To facilitate the transfer and reuse of property at Alameda Point, the Navy is completing a Site Inspection of Western Bayside and Breakwater Beach, which are areas not addressed under other environmental programs (e.g., the IR Program).

1.2 Site History and Description

Alameda Point is located on the Island of Alameda, located in San Francisco Bay, adjacent to the City of Oakland (Figure 1-1). The former NAS Alameda is rectangular, with dimensions of 2 miles long from east to west and 1 mile wide from north to south, and occupies 1,734 acres of land. The southwestern tip of the original Alameda peninsula was used as agricultural land prior to development as an industrial, ferry, and transit center in the late 1800s. From the 1850s, Alameda Point was used for whaling oil operations until 1869 when the Alameda Point Ferry was built (U.S. Department of the Navy [DON], 1998). In the northern section of the point, railroad yards and rights-of-way for Southern Pacific, Central Pacific, and small local railways were built over the land and the sloughs.

The Army acquired the installation property from the City of Alameda in 1930 and began construction activities in 1931. In 1936, the Navy acquired the title to the land from the Army and began building NAS Alameda in response to the military buildup in Europe before World War II. After the United States entered the Second World War in 1941, more land was acquired adjacent to the air station. Following the end of the war, Alameda Point returned to its original primary operation: to provide facilities and support for fleet aviation activities. The land use of Alameda Point consisted of a runway area in the extreme western end of the island, an industrial area in the central portion, and residential and personnel support areas on the northeastern and eastern portions. Table 1-1 presents a summary of development and potential historical sources and releases to the offshore sites.

1.2.1 Western Bayside

Western Bayside is located along the western and southern edge of Alameda Point (Figure 1-2). It is not identified as an IR site. The site is approximately 1.1 miles long north to south. It includes the offshore areas west of IR Sites 1 and 2 and extends eastward along the southern shoreline to include the offshore area between IR Site 2 and IR 17 (historically referred to as the South Shore).. The majority of this area is subtidal with a maximum water depth of about 22 feet (ft). Riprap lines the shoreline of Western Bayside, resulting in limited intertidal areas. At low tide, small areas of beach are exposed. The majority of the land adjacent to Western Bayside is associated with the 1943-1956 Disposal Area (IR Site 1) and the West Beach Landfill (IR Site 2), active from 1957 to 1978 (NEESA, 1983).

Historically, two skeet ranges were operated on the northwestern corner of Alameda Point. Lead shot were discharged from guns toward clay pigeon targets projected westerly over San Francisco Bay. As a result, lead shot and clay target fragments reside in the offshore sediment adjacent to the Skeet Range. A remedial investigation for this area, designated as IR Site 29, was completed in 2004 (Battelle et al., 2004a). The remedial investigation (RI) focused on the potential risks associated with lead shot and polynuclear aromatic hydrocarbons (PAHs) from the clay targets. It was determined that lead shot were not dissolving quantities that would be considered to be biologically of concern, and that they were gradually being buried. Further, it was determined through a forensics investigation that the PAHs at the site were not associated with the clay targets. Based on these results, it was determined that sediments at IR Site 29 pose no threat to humans or the environment and that the site be closed with no further action (Battelle et al., 2004a; Battelle, 2005a).

Proposed future land use of the onshore areas adjacent to Western Bayside consist of recreation and open space including a Bay Trail, shoreline park, and Point Alameda Regional Park (ARRA, 1996). The Bay Trail is the main feature planned to run the length of Oakland Alameda Estuary to allow full public access to the shoreline, whereas the tip of Alameda Point will be preserved as a regional park for fishing and other recreational uses. South of the point, the open areas will be used for recreational sports including potential construction of soccer and baseball fields and a golf course.

1.2.2 Breakwater Beach

Breakwater Beach is located in the southeastern part of Alameda Point, just south and east of IR Site 24 (Pier Area). It is not identified as an IR site. The site is approximately 0.5 miles long and includes a beach and an offshore area that extends from the southern shoreline of Alameda Point to a long breakwater south and southeast of a turning basin (Figure 1-2) (Battelle et al., 2000). The breakwater protects the pier areas to the west and reduces silting in the navigational channel. The western boundary of the site is located just east of Pier 3 of IR Site 24 and runs perpendicular to the shoreline out to the breakwater. The remainder of the site is bounded by the shoreline and the breakwater. A recreational picnic area and a small marina are located at the northwest end of the beach.

Proposed future land use of the onshore areas north of Breakwater Beach consist of a regional park, including shoreline access and recreation, beach uses, tent camping sites, and a recreational vehicle park (ARRA, 1996). Reuse plans also include potential rehabilitation and reuse of the existing marina and breakwater at the site.

1.3 Purpose

The CERCLA process consists of two major components; a remedial site evaluation (40 CFR 300.420) and a remedial investigation/feasibility study (RI/FS) (40 CFR 300.430). The remedial site evaluation is conducted through a preliminary assessment (PA) and site inspection (SI), and represents a screening process that assists in differentiating among sites that warrant immediate attention, sites which require further evaluation, and sites that pose no concerns to the public health or the environment and may thus be removed from further consideration. If the PA/SI determines that further investigation is necessary, a RI and FS are conducted.

The screening process was initiated with the Navy's Initial Assessment Study in 1983 (see Section 1.1). This SI report documents the SI conducted for Western Bayside and Breakwater Beach to complete the remedial site evaluation at these sites.

The objectives of this SI Report for Western Bayside and Breakwater Beach are to:

- describe the history and nature of past waste handling practices;
- describe known sources of contamination and transport mechanisms;
- identify and describe human and environmental receptors at or near the sites; and
- recommend whether further action is warranted at these sites.

1.4 Report Organization

This SI Report is organized as follows:

Section 1.0:	Introduction
Section 2.0:	Setting and History. This section describes the physical and ecological settings and the conceptual site models (CSM) at Western Bayside and Breakwater Beach.
Section 3.0:	Previous Investigations. This section describes historical information from previous investigations.
Section 4.0:	Data Evaluation. This section describes the distribution of chemicals present in sediment and tissue based on historical and recent investigations and includes a discussion of the background comparison tests. This section also explains how exposure point concentrations (EPCs) for both sediment and tissue and bioaccumulation factors (BAFs) were developed.
Section 5.0:	Human Health Risk Evaluation. This section presents the results of the Human Health Risk Assessment.
Section 6.0:	Ecological Risk Evaluation. This section presents the results of the Ecological Risk Assessment with results summarized in the risk characterization section.
Section 7.0:	Uncertainty Analysis. This section discusses the uncertainties associated with the historical data, analytical data, and the human health and ecological assessments.
Section 8.0:	Conclusions and Recommendations.
Section 9.0:	References.

Tables and figures are presented in separate tabbed sections at the end of the document. Supporting information is provided in the following Appendices A through F:

A. Summary of Analytical Data
B. Background Comparison Test
C. Development of Bioaccumulation Factors (BAFs)
D. Human Health Risk Assessment
E. Ecological Risk Assessment
F. Response to Agency Comments

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2.0 SITE SETTING

This section presents background information relevant to the Western Bayside and Breakwater Beach areas of the Alameda site. An overview of the physical and ecological settings and conceptual site models of Western Bayside and Breakwater Beach are included.

2.1 Physical Setting

Former NAS Alameda was created in the 1930s by filling shallow mudflats, marshlands, and sloughs with material dredged from San Francisco Bay. The land area of the Alameda Peninsula was very different from the current land area of Alameda Island because of the opening of the Inner Harbor and Tidal Canal and subsequent filling of marsh and offshore areas. The eastern portion of NAS Alameda is located on the tip of the original Alameda Peninsula and marshlands; the western portion of NAS Alameda is located on an area formerly covered by open waters of San Francisco Bay. A summary of the physical setting at Western Bayside and Breakwater Beach is presented below.

2.1.1 Western Bayside

Sediment Characteristics

Based on field observations, the shoreline along Western Bayside is characterized as rocky substrate (i.e., riprap) with limited intertidal areas (i.e., sand beaches and mudflats). At low tide, small areas of beach are exposed. Historical surface sediment samples collected within 50 – 75 ft of shore were largely coarse grain (less than 40 percent fines), with finer grain sediments in samples beyond this distance from shore. Finer-grained sediments were also observed along the northwestern and southern shorelines of Western Bayside in 2005 (see Appendix A).

Hydrodynamic Setting

Circulation offshore of Western Bayside is driven primarily by tidal currents and winds. The tidal cycle consists of two high and two low tides per day of unequal amplitude. Currents along the western shore of Alameda Point flow to the south during flood tides and to the north during ebb tides.

Western Bayside is exposed to wind-generated waves, particularly from the west-northwest (the prevailing wind direction). The shoreline along the northwestern portion and most of the southern shore of Western Bayside extending eastward toward Seaplane Lagoon are net depositional areas, while the southern two-thirds of Western Bayside, including the area just south of IR Site 2, are net erosional areas (U.S. Army Corps of Engineers [COE], 1979 as cited in PRC Environmental Management, Inc. [PRC], 1996a). Western Bayside has never been dredged.

2.1.2 Breakwater Beach

Sediment Characteristics

Historical grain size data at Breakwater Beach characterize the sediments at this site as being coarser grained along the shoreline east of the marina (less than 21 percent fines) and finer grained further offshore (between 43 and 84 percent fines), with an area of very fine sediments in the central portion of the site (92 to 99 percent fines) (TtEMI, 1998a). Sediment within the marina also contained a large percentage of fines (87 percent). More recent field observations confirmed that the sediments at Breakwater Beach were very soft silt/clay (Battelle, 2002).

Hydrodynamic Setting

The tidal cycle consists of two high and two low tides per day of unequal amplitude, with a mean tidal range of 4.84 ft and a diurnal range of 6.60 ft (National Oceanic and Atmospheric Administration [NOAA], 2006).

Bathymetric surveys (United States Environmental Protection Agency (U.S. EPA) and COE, 1992 as cited in PRC, 1996b) indicate that sedimentation occurs within the enclosed area of Breakwater Beach, which is surrounded by breakwaters. Evidence indicates that bottom currents may transport and deposit suspended sediment from San Francisco Bay into the Breakwater Beach area (PRC, 1996a and 1996b). The beach area has never been dredged.

2.2 Ecological Setting

San Francisco Bay is commonly subdivided into three geographical areas designated as the North Bay, Central Bay, and South Bay, with Alameda Point located in the Central Bay area. Although a complete habitat evaluation has not been conducted for the offshore areas of Alameda Point, information presented in previous ecological assessments for Alameda Point (PRC, 1994) was used to describe the composition of the biotic communities in the offshore areas. Additionally, habitat assessments conducted for the Port of Oakland (Golden Gate Audubon Society [GGAS], 1994; ENTRIX, 1997) provided supplementary information. This information is discussed in the ecological risk assessment in Section 6 and in Appendix E (including lists of species observed or likely to be found in each area).

2.3 Conceptual Site Model

This section describes the CSMs for Western Bayside and Breakwater Beach that serve as the basis for the ecological and human health risk assessments conducted for the SI Report. The CSM is a framework for relating potential receptors to contaminated media and determining the degree of completion and significance of exposure pathways. This section describes the portion of the CSM focused on known sources, possible transport mechanisms, and potential exposure media (Figures 2-1 and 2-2). Full CSMs, including the exposure pathways and scenarios, are presented in Sections 5 and 6 as part of the human health and ecological risk assessments.

2.3.1 Western Bayside

2.3.1.1 Potential Sources of Contamination

Potential sources of contamination to environmental media at Western Bayside include contaminated groundwater discharges impacted by historical onshore activities at IR Site 1 and IR Site 2 and historical wastewater and storm water discharge.

IR Site 1 was used for disposal of wastes from Alameda Point from 1943 until 1956 (NEESA, 1983). During the time it was used for disposal operations, IR Site 1 reportedly received significant volumes of waste material that included waste oil, paint waste, solvents, cleaning compounds, scrap metal, putrescible waste, and radiological material (NEESA, 1983). In addition, the Navy Public Works Department employed open burning as the primary waste disposal method starting in the early 1950s in an area that is currently known as the Burn Area, which is located along the northwestern edge of Alameda Point (Figure 2-3). Burn residue was pushed into San Francisco Bay with a bulldozer that extended the shoreline westward. Logs for borings drilled during the Solid Waste Assessment Test (SWAT) program indicate that the shoreline was filled with burned and unburned refuse and a thin covering of sand. However, the IR Site 1 current burn area does not extend into the bay or even onto the beach area. Chemicals detected in surface soil (0 to 2 ft below ground surface) include metals, polychlorinated biphenyls (PCBs), pesticides, PAHs, and volatile organic compounds (VOCs). To detect if offsite migration may be occurring, groundwater monitoring wells were installed on the western perimeter of the site in 2002. Chemicals detected during the quarterly sampling from these wells include metals, PAHs, radium, semi-volatile organic compounds (SVOCs), and VOCs (Innovative Technical Solutions, Inc. [ITSI], 2006). In March 2005, four soil borings (IR1-EAD-SOC 13, 14, 15, and 16) were completed within the Burn Area at IR Site 1, with two of the borings being completed as close to within 20 ft of the shoreline as possible while avoiding interference from the large riprap protective covering present along the shore of IR Site 1 (Battelle, 2006). Soil cores were collected at four depth intervals (0 – 2 ft, 2 – 10 ft, 10 – 20 ft, and 20 – 30 ft). Fifteen individual polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) congeners were analyzed in all Burn Area soil samples because they represented the primary data gap that was to be addressed during the March 2005 survey. Seven of these individual PCDD/PCDF congeners were detected in each of the soil samples collected from the four IR Site 1 Burn Area soil sampling locations. The 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (2,3,7,8-TCDD) toxic equivalents (TEQs) for surface soils at the Burn Area ranged from 27.37 ng/kg (dry weight) to 78.76 ng/kg. These concentrations are well below the U.S. EPA cleanup level (1 ppb or 1 μg/kg [TEQs]) for dioxin in residential soils at Superfund and Resource Conservation and Recovery Act (RCRA) cleanup sites (U.S. EPA, 1998a). This recommended level for surface soil is generally considered protective of human health and the environment, and is based on the direct contact exposure pathway. Therefore, while dioxins were detected in soils at the IR Site 1 Burn Area in 2005 (Battelle, 2006), they are a ubiquitous contaminant and are not one of the drivers (i.e., TPH, PAHs, pesticides, PCBs, metals, and radium) for the proposed remediation of soils at IR Site 1 (DON, 2006). The IR Site 1 current burn area does not extend into the bay or even onto the beach area.

The West Beach landfill area (IR Site 2) served as the disposal area for NAS Alameda from approximately 1952 until 1978; however, most disposal of hazardous waste was eliminated by the early 1970s. Materials reportedly disposed at the landfill included municipal garbage, solvents, oily wastes and sludges, paint waste, strippers, thinners, plating wastes, industrial strippers/cleaners, acids, mercury, PCB-contaminated fluids, batteries, low-level radiological wastes, scrap metal, inert ordnance, asbestos, pesticides, tear gas agents, infectious waste, creosote, and waste medicines and reagents (NEESA, 1983). A culvert drains the area north of IR Site 2.

Six storm-sewer outfalls (EE, GG, HH, S, T, and U) are located along the shore of Western Bayside (Figure 2-4). Historically, the storm-sewer system received untreated industrial wastewater from plating shop baths and paint shops, pesticides, herbicides, cleaning solvents, PCBs, oil and grease, and fuel hydrocarbons (PRC, 1996c). The storm–sewer system now receives only storm water runoff from the base.

2.3.1.2 Transport Mechanisms

Surface Runoff

The storm–sewer system at Alameda Point served as a primary transport route for chemicals from industrial operations and for surface water runoff to reach the offshore sites. Since 1972, wastes from industrial operations have been diverted to waste treatment plants (TtEMI, 2000a). However, residual sediments remaining in the sewer system were considered a potential source of contaminants to the offshore areas. As a result, the storm–sewer system was listed as IR Site 18. In 1991, the Navy initiated several removal actions, designed to remove residual contaminated sediments from the sewer lines. The effectiveness of these actions was documented through closed circuit television surveys, and the Navy issued a technical memorandum in February 2000 that removed Site 18 as a specific IR site (TtEMI, 2000a).

Groundwater Migration

In addition to surface runoff, contaminants may also have been transported to the offshore areas via groundwater discharge. A tidal influence study conducted within IR Site 2 demonstrated that groundwater under the western portion of NAS Alameda generally flows toward San Francisco Bay and that the flow is tidally influenced (PRC, 1997). The movement of groundwater under IR Sites 1 and 2 may carry contaminants to the offshore area at Western Bayside.

Food Chain Transport

Benthic invertebrates residing in Western Bayside may be exposed to chemicals of concern through ingestion of and direct contact with sediments resulting in a potentially complete exposure pathway. A review of major exposure pathways to higher trophic levels in Western Bayside indicates that there are also potentially complete exposure pathways to benthic-feeding and piscivorous fish and birds, as well as humans. Exposure pathways include the ingestion of aquatic species and direct contact/incidental ingestion of sediments in the area. Sections 5 and 6 describe the specific receptors and exposure pathways evaluated for the human health and ecological risk assessments, respectively.

Other Mechanisms

Other potential sediment transport mechanisms at the site include wave action and bioturbidity. Each of these can result in the mobilization of sediments by causing them to be resuspended in the water column.

2.3.1.3 Exposure Media

Sediments are the primary media of concern for Western Bayside. A detailed evaluation of the nature and extent of sediment contamination at Western Bayside is provided in Section 4. Based on the identification of potential sources of contaminants, sediment associated with the offshore sites could be impacted by heavy metals (primarily from industrial metal-working operations), PAHs (primarily from petroleum releases as well as the use of piers treated with creosote), PCBs (primarily from releases of PCB dielectric fluids and other PCB-contaminated oils), and pesticides (primarily from routine pesticide applications). Based on their chemical and physical properties, volatile chlorinated and nonchlorinated solvents are not expected to partition to sediment as compared with other potential contaminants, such as PCBs, pesticides, and metals. Most volatile solvents subjected to the physicochemical processes (i.e., volatilization, dispersion, and dilution) and biodegradation would not significantly partition into sediments. In addition, these chemicals were not identified as chemicals of potential concern (COPCs) based on evaluation conducted during previous investigations, which indicated very low concentrations in sediments (Battelle et al., 2000), and as documented in the approved Final Offshore Sediment Study Workplan (Battelle et al., 2005b). However, these chemicals remain a concern in upland soil and groundwater and are being addressed primarily through the Operable Unit (OU) OU-1 and OU-2 RI/FS process (TtEMI, 1999).

Surface water is not considered a media of concern for the following reasons:

(1) The primary chemicals of concern (metals, pesticides, PAHs, and PCBs, discussed further in Section 4) are relatively insoluble, meaning that partitioning from sediment to surface water will be low. Hydrophobic, nonpolar organic contaminants, such as PCBs, DDT, and some species of metals, are primarily associated with sediments and tend to adsorb to fine-grained sediment, which is present at IR Sites 20 and 24. Adsorption onto sediment particles limits the degree to which dissolution and contamination of overlying water occurs. The transport and fate of these contaminants are controlled by the movement of the sediment particles.

(2) Potential continuing onshore sources of surface water to the offshore areas have been controlled. The storm sewer system at Alameda Point, designated as IR Site 18, served as a primary transport route for chemicals from industrial operations and for surface water runoff to reach the offshore sites. In 1975, the direct discharge of industrial wastewater through the storm sewer network was terminated, and a pollution prevention program was initiated. In 1991, the Navy initiated several removal actions, designed to remove residual contaminated sediments from the sewer lines. In Phase I of the removal action, sediments and debris were vacuumed from the storm-sewer catch basins; Phase II of the removal action included cleaning the system lines, including those associated with the outfalls at Western Bayside (EE, GG, HH, S,T, U) and Breakwater Beach (M, N, O, P, ZZ, Q1, Q) (Tetra Tech EM, Inc. [TtEMI], 2000a). The effectiveness of these actions was documented through closed circuit television surveys, and a technical memorandum was issued in February 2000 that removed Site 18 as a specific IR site (DON, 2000).

(3) Tidal action and San Francisco Bay currents result in rapid dilution and/or transport of constituents. Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/94 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996a) and are summarized in Table 7-9 of that report. Total metals concentrations (Tables D-3.1 and D-3.2 in PCR, 1996a) were below detection limits, with the exception of chromium and zinc, which were detected at concentrations less than aquatic life and human health ambient water quality criteria (AWQC) (U.S. EPA, 2006a; San Francisco Bay Water Board, 2007). Dissolved metals were never detected in surface water. Metals detection limits (total and dissolved) were adequate for most of the constituents to allow comparison to aquatic life (except for copper, nickel, and silver) and human health (except for arsenic) AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside (see Tables D-3.2 and 3.3 of PRC, 1996a) were all not detected, although elevated detection limits preclude comparisons of most pesticides and PCBs to aquatic life AWQC. Elevated detection limits preclude comparisons of some PAHs, pesticides, and PCBs to human health AWQC. Based on these data, and as specified in the approved Final Work Plan for the Alameda offshore sites, surface water is not a significant exposure medium to chemical contaminants.

2.3.2 Breakwater Beach

2.3.2.1 Potential Sources of Contamination

The primary sources of contamination to Breakwater Beach include historical wastewater and storm water discharge, surface runoff, and discharges associated with marina activities. There are several storm-sewer outfalls along the southern boundary of Alameda Point that empty into the Breakwater Beach area (Figure 2-4).

2.3.2.2 Transport Mechanisms

Surface Runoff

Similar to Western Bayside (Section 2.3.1.2), the storm-sewer system served as a primary transport route for chemicals and for surface water runoff to reach Breakwater Beach.

Food Chain Transport

No site-specific benthic invertebrate sampling has been conducted at Breakwater Beach, but both Breakwater Beach and Western Bayside contain a mixture of coarse- and fine-grained sediments; thus it is expected that benthic organisms found at Breakwater Beach are similar to those found at the other offshore areas (i.e., annelids, crustaceans, and molluscs), and that the major exposure pathways to higher trophic levels would be similar at the two sites. Sections 5 and 6 describe the specific receptors and exposure pathways evaluated for the human health and ecological risk assessments, respectively.

Other Mechanisms

Other potential sediment transport mechanisms at the site include wave action, harbor activity, and bioturbidity. Each of these can result in the mobilization of sediments by causing them to be resuspended in the water column.

2.3.2.3 Exposure Media

Similar to Western Bayside, sediments are the primary media of concern. Based on their chemical and physical properties, volatile chlorinated and nonchlorinated solvents are not expected to partition to sediment as compared with other potential contaminants such as PCBs, pesticides, and metals. Most volatile solvents subjected to the physicochemical processes (i.e., volatilization, dispersion, and dilution) and biodegradation would not significantly partition into sediments. In addition, these chemicals were not identified as COPCs based on evaluation conducted during previous investigations, which indicated very low concentrations in sediments (Battelle et al., 2000), and as documented in the approved Final Offshore Sediment Study Workplan (Battelle et al., 2005b). Additionally, surface water is not considered a media of concern at Breakwater Beach, due to similar conditions as outlined in Section 2.3.1.3 for Western Bayside.

3.0 PREVIOUS INVESTIGATIONS

Each of the areas being evaluated in this SI Report has been the subject of previous investigations including, most recently, sediment analyses conducted in June 2005 (Battelle, 2005b). A summary of these investigations is provided below.

3.1 Field Sampling Programs

3.1.1 Western Bayside

Environmental data were collected at Western Bayside in 1993/94, 1996, and 2005 (PRC, 1994; 1996a; 1996b; Battelle, 2005b). Table 3-1 provides a summary of available data collected at Western Bayside, and Figure 3-1 indicates all of the sampling stations from these investigations.

Ecological Assessment, 1993/94: In 1993, sediment samples were collected around the shoreline of Western Bayside near storm water outfalls, culverts, a leachfield, and other onshore features associated with drainage from the land (PRC, 1994). The objectives of the initial investigation in 1993 were to define the horizontal and vertical extent of contamination in support of the Alameda Ecological Assessment (PRC, 1994 and 1996a). This investigation was designed to identify ecological impacts on biota that might be caused by hazardous materials either used at or disposed within Alameda Point.

Sediment samples were collected at 12 locations at Western Bayside (B2 – B9 and B11 – B14) and at 1 reference location in San Pablo Bay. Station B8 was located opposite a culvert that drains the landfill area into San Francisco Bay and is subject to tidal action. Station B12 was located near a storm sewer outfall; Stations B13 and B14 were located about 1500 ft from the Western Bayside shoreline.

Sediment grab samples were collected at each of the 13 locations, and core samples of one meter in depth were collected at 6 locations (B2, B4, B6, B8, B9, and B12). Sediments from the cores were stratified into 30-centimeter (cm) intervals from the surface of the core as retrieved (i.e., 0 – 10 cm, 10 – 40 cm, 40 –70 cm, and 85-95 cm). Each sample was analyzed for total metals, semivolatile organic compounds (SVOCs), pesticides, PCBs, total organic carbon (TOC), gross *alpha* radiation, and gross *beta* radiation. Screening these samples against ecological benchmarks, such as effects range-low (ER-L) and effects range-median (ER-M), indicated elevated levels of metals (arsenic, chromium, copper, mercury, and nickel), PAHs, Total DDx (refers to a combination of the pesticides dichlorodiphenyltrichloroethane [DDT] and its metabolites dichlorodiphenyldichloroethylene [DDE] and dichlorodiphenyldichloroethane [DDD]), and Total PCBs. Additional samples were collected in 1994 from the same locations sampled in 1993 for re-analysis of SVOCs because the original 1993 SVOC data were rejected.

In addition to the sediment sampling data, laboratory bioaccumulation tests using the clam *Macoma nasuta* were conducted in 1993 and 1994 using surface sediment samples collected at seven locations (PRC, 1994; Table 3-1). Field-collected invertebrate tissue samples were not obtained. In addition, three types of toxicity tests were conducted on the 1993 sediment samples including a bulk sediment amphipod bioassay (i.e., 10-day *Eohaustorius* test), a polychaete survival and growth test (i.e., 28-day *Neanthes* test), and pore water bioassays using bivalve (*Mytilus*) larvae.

Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/94 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996a) and are summarized in Table 7-9 of that report. Total metal concentrations were below detection limits, with the exception of chromium and zinc, which were detected at concentrations less than the chronic and acute marine ambient water quality criteria (AWQC) (Tables D-3.1 and D-3.2 in PCR, 1996a). Dissolved metals were never detected in surface water. Metals detection limits (total and dissolved) were adequate for most of the constituents (exceptions included copper, mercury, nickel, and silver) to allow comparison to AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside were all not detected (see Tables D-3.2 and 3.3 of PRC, 1996a), although elevated detection limits preclude comparisons of most pesticides to AWQC.

Operable Unit 4 Follow-on Ecological Assessment, 1996: After the initial ecological assessment was conducted in 1993/94, data gaps in the original study were identified and addressed in a follow-on ecological assessment in 1996 (PRC, 1996b). PRC collected 22 surface sediment grab samples in Western Bayside, with 3 locations selected to address spatial gaps and to supplement data collected during the initial assessment. In addition, Outfalls EE, GG, and HH were sampled. During the 1996 study, three samples (SS001, SS002, and SS006) were also collected from the South Shore, which is an offshore area between the eastern boundary of IR Site 2 and IR Site 17. Samples were analyzed for the same suites of chemicals as the 1993/94 data, plus the addition of sulfides and VOCs; however, no additional bioassay or bioaccumulation studies were performed.

Offshore Sediment Core Study, 2005: To address data gaps identified at Western Bayside during the Data Summary Memorandum (Section 3.2), additional sediment core samples were collected in 2005 at Western Bayside to better define the spatial and vertical extent of sediment contamination, to analyze COPCs in sediment to support ecological and human health risk assessments, and to determine if potential migration of contaminants from onshore sources have impacted the sediment, resulting in unacceptable risks along Western Bayside (Battelle, 2005b).

The 2005 sampling event was designed to represent the sediment chemistry throughout the area, not just at suspected "hot spots". The design specifically included both areas where previous investigations found elevated concentrations and areas not previously sampled, by using a modified systematic sampling plan. In addition, sediment core samples were collected to ensure that the concentration profile with depth was characterized. The 2005 data are considered a good overall representation of current site conditions for the following reasons: good spatial coverage in x, y, and z dimensions, use of sediment cores to ensure that each layer of sediment was carefully evaluated, 2005 timeframe is more indicative of current conditions than samples taken as much as 13 years ago, and achievability of lower detection limits, thereby reducing uncertainty related to the presence or absence and concentration of the full range of potential constituents of interest.

Sediment grab (0 – 5 cm) and core (5-25, 25-50, and 50-125 cm) samples were collected at 22 stations in a systematic grid pattern along the shoreline. Although the 1996 sampling event was designed to evaluate the potential offshore transport of contaminants from IR Sites 1 and 2, a perimeter groundwater monitoring program has been implemented since the 1996 sampling that further delineates the contaminant plume in groundwater. Five of the stations (i.e., WBC-12 through WBC-16) were located adjacent to groundwater monitoring wells M001, M029, M028, M027, and M025, where exceedances of organic constituents (i.e., PAHs) and metals were measured from IR Site 1 landfill. Adjacent to IR Site 2, one sediment core (WBC-9) was collected across from the culvert that connects the North Pond to San Francisco Bay. In addition, five cores were collected adjacent to the Beach Area extending from IR Site 1 to the northern boundary of IR Site 2. Four samples (WBC-1 through WBC-4) were located in the area historically referred to as the South Shore. This is an offshore area between the eastern boundary of IR Site 2 and IR Site 17, where three historical samples (SS001, SS002, and SS006) were collected in 1996. Sediments were analyzed for grain size, TOC, PAHs, pesticides, PCB congeners, and organotins. In addition, radium was analyzed at a subset (i.e., eight) of the 2005 sample locations (as indicated in Table 3-1), and targeted outfalls and areas adjacent to IR Sites 1 and 2.

3.1.2 Breakwater Beach

Offshore sediments at Breakwater Beach were sampled in 1996, 1998, and 2002 (PRC, 1996b; TtEMI, 1998b; Battelle, 2002). Table 3-2 provides a summary of available data collected at Breakwater Beach, and Figure 3-2 indicates all of the sampling stations from previous investigations.

Operable Unit 4 Follow-on Ecological Assessment, 1996: The initial ecological assessment of aquatic and wetland areas of NAS Alameda (1993/94) recommended sediment sampling at Breakwater Beach, given the depositional nature of the area and the presence of several outfalls along the shoreline (PRC, 1996a). The objectives of the 1996 investigation at Breakwater Beach were to determine (1) the potential impact of seven storm water outfalls along the shoreline on sediment quality and (2) whether potentially contaminated sediment from adjacent areas had been transported to and redeposited at Breakwater Beach (PRC, 1996b). To achieve these goals, sediment (0 – 3 ft and 3 – 6 ft intervals) was collected at 21 stations along transects from each of the 7 outfalls to the south towards the breakwater. Each sample was analyzed for total metals, SVOCs, PAH, pesticides, PCBs, organotins, and total petroleum hydrocarbons (TPH). In addition, surface samples were analyzed for TOC, grain size, and sulfides, and radium-226 and radium-228 were analyzed at four stations (B003, B004, B006, and B009). Pore water and invertebrate bioassay testing (i.e., 10-day *Eohaustorius* test, 28-day *Neanthes* test, and 72-hour *Stronglyocentrotus purpuratus* test) were performed on grab samples collected at seven of the stations (BB001, BB004, BB007, BB010, BB013, BB016, and BB019).

Chemical analyses were also conducted on four mussel tissue samples collected from Breakwater Beach in 1996. Mussels located near a recreational picnic and beach area were of primary concern because of the potential for the mussels to be harvested for human consumption. Mussel samples (*Mytilus californianus*) were collected at three locations along the riprap and at one location along the southern end of the beach area (Stations BB022, BB023, BB024, and BB027).

Ecological Risk Assessment, 1998: An additional five sediment grab samples (0 – 5 cm) were collected at Breakwater Beach in 1998 along a transect that followed the expected gradient of contamination for the purpose of investigating possible relationships between chemical concentrations in sediment and biological effects (TtEMI, 1998b). All of the samples collected in 1998 were analyzed for TOC, grain size, PAHs, SVOC, PCBs, pesticides, metals, and organotins. In addition, three types of toxicity tests (i.e., 10-day *Eohaustorius* test, 28-day *Neanthes* test, and 72-hour *Stronglyocentrotus purpuratus* larvae development test) and 28-day *Macoma nasuta* bioaccumulation tests were performed.

Supplemental Amphipod Toxicity Study, 2002: Review of the biological testing conducted during the previous studies indicated a high level of uncertainty associated with the historical amphipod bioassays conducted in 1993/94 and 1998 as discussed in Section 3.2. It was suspected that confounding factors may have impacted the amphipod testing results, given the high replicate variability, poor performance in uncontaminated reference sediments, and lack of a relationship between amphipod toxicity and sediment chemistry. To address this issue, Battelle conducted a supplemental amphipod toxicity study in the summer of 2002, with the objectives of (1) determining whether Alameda offshore sediment was toxic to amphipods when confounding factors were appropriately controlled and (2) supporting the toxicity and sediment chemistry lines of evidence to further characterize offshore areas that may pose an unacceptable risk to benthic invertebrates (Battelle, 2002).

Surface sediment (0 – 5 cm) was collected from five previously sampled stations in Breakwater Beach (i.e., BW02, BW03, BW04, BW05, and BB004). The samples were tested following a 10-day static exposure of the amphipod *Eohaustorius estuarius* to marine sediment. In addition, the sediment samples were analyzed for selected COPCs including pesticides, PAHs, PCBs, butyltins, metals, grain size, and TOC.

3.2 Data Summary Memorandum

A draft Data Summary Memorandum was prepared (Battelle et al., 2000) for Western Bayside and Breakwater Beach that used all the collected data from 1993/94, 1996, and 1998 to describe the nature and extent of contaminants and to evaluate the potential risks to human and ecological receptors. Based on that investigation, surface sediment concentrations were found to be generally within the range expected for ambient levels in San Francisco Bay and unlikely to pose an increased health risk relative to the rest of San Francisco Bay (Battelle et al., 2000). In addition, tissue chemistry results from the laboratory bioaccumulation tests were qualitatively compared with tissue data from bioaccumulation tests conducted using sediments from five San Francisco Bay reference sites as part of the Navy's 1998 field sampling effort at Alameda Point (TtEMI, 1998b). In general, concentrations of metals detected in Western Bayside and Breakwater Beach tissue samples were comparable to or lower than the reference site tissue concentrations. Most organic chemicals were not detected in the tissue samples; however, this may have been due to high detection limits. Bioassay results were compared to State Water Resources Control Board thresholds (San Francisco Bay Water Board, 1998a), and it was concluded that no adverse biological effects were indicated except that amphipod survival was below the San Francisco Bay Water Board thresholds at the site (PRC, 1994). However, there are potential concerns associated with the amphipod results due to the high replicate variability, poor performance in uncontaminated reference sediments, and lack of a relationship between amphipod toxicity and sediment chemistry (Battelle et al., 2000).

Potential ecological and human health risks posed by contaminants detected in tissues also were evaluated (Battelle et al., 2000). The evaluation of risks to upper trophic level organisms (surf scoters and least terns) indicated no risk for nine of the ten contaminants of potential ecological concern (COPECs) assessed. The one chemical that appeared to pose a risk to upper trophic level receptors was lead, but risks from the site were comparable to those calculated based on reference site information (Battelle et al., 2000). Potential human exposures through direct contact with sediment and consumption of shellfish indicated that Western Bayside and Breakwater Beach were unlikely to pose an increased health risk relative to the rest of San Francisco Bay based on comparison of site specific risks relative to those calculated based on the reference site data.

Based on these results, it was recommended that Western Bayside and Breakwater Beach be considered Category 3 areas, which is defined as an area where release, disposal, and/or migration of hazardous substances has occurred but at concentrations that do not require a removal or remedial response (Battelle et al., 2000). The report was submitted to the BRAC Cleanup Team (BCT) members and stakeholders in December 2000. The comments received from the regulatory agencies recommended that additional investigations were warranted at Western Bayside to more fully evaluate the nature and extent of potential contamination.

4.0 DATA EVALUATION

This section describes the sediment contamination potentially associated with Navy activities at Western Bayside and Breakwater Beach, and evaluates the spatial distribution of these chemicals. These assessments are based on current and historical sediment chemistry data and *Macoma nasuta* tissue data for Western Bayside and Breakwater Beach. Additional supporting tables and graphics are presented in Appendix A.

4.1 Methods

This section describes the methods used to prepare the current and historical data for analysis and graphical display. Data preparation included the calculation of total concentrations for summed chemicals (e.g., DDx, PAHs, and PCBs). Data analysis included the preparation of box plots and bubble plots. Sediment chemistry data collected for the historical investigations were compared to ambient data for San Francisco Bay; the ambient data set is described in Section 4.1.2.

4.1.1 Data Preparation

Analytical results for sediment samples collected in previous Navy investigations as summarized in Section 3.1 were compiled and loaded into a centralized database prior to data evaluation, along with data collected as part of the 2005 field effort (Battelle, 2005b). The data were prepared to estimate total concentrations for summed chemicals (e.g., DDx, PAHs, and PCBs) for sediment, as well as to visually present the data in box and bubble plots.

Although the 2005 sampling effort in Western Bayside is believed to provide a good overall representation of current conditions (based on good spatial coverage, use of sediment cores, and lower detection limits achieved), all available data from Western Bayside (excluding locations sampled as part of the Skeet Range Investigation) were included in the investigation. To evaluate potential temporal and vertical differences in the data, three separate data sets for Western Bayside were evaluated, representing unique time periods and exposure scenarios. The data sets were as follows:

1. All Years: All historical surface sediment (0-5 cm) data.

2. 2005 Surface: All the surface data (0-5 cm) collected in 2005.

3. 2005 Subsurface: Deeper sediments (5-25 cm) collected in 2005 requested by regulatory agencies to be evaluated in the ecological risk assessment. It also includes deeper core intervals (25-50 cm) collected in 2005, to help bound the vertical extent of contamination.

No data were collected in 2005 at Breakwater Beach. Data collected in 1996 provide the greatest spatial representation (surface and depth) of Breakwater Beach, and more recent surface sediment data were collected in 1998 and 2002. Therefore, only one data set, All Years, which included all historical surface sediment (0 – 5 cm) data, was evaluated for Breakwater Beach. It should be noted that the depth of the surface interval collected at Breakwater Beach in 1996 was much deeper (0 – 91 cm) than that collected in 1998 (0 – 6 cm) and 2002 (0 – 5 cm).

Sediment chemistry data were incorporated into the evaluation using the following guidelines for both Western Bayside and Breakwater Beach unless otherwise indicated:

- "R" qualified data (rejected) were excluded.
- Analytes that were not detected were set to one-half the detection limit reported with the data. In some instances, the historical study documentation does not clearly indicate which indicator for method sensitivity was provided by the laboratory; however, one-half the reported value was used.
- For samples that had field duplicates collected, the primary field sample result was used unless that result was rejected (i.e., "R" qualified), in which case the field duplicate result was used. In all other cases, the field duplicate data were excluded from the analysis (see Section 7.1 for more detail on the uncertainty related to excluding field duplicate data from the analysis).
- Individual analytes included in groups of compounds (i.e., Total low molecular weight PAHs [LPAHs], Total high molecular weight PAHs [HPAHs], and Total DDx) were included at one-half the detection limit (DL) in the estimation of total concentration if they were non-detect (qualified with "U" or "UJ"). For purposes of box plots and bubble plots, total concentrations also were estimated setting non-detects equal to zero to evaluate the influence of non-detects on the estimated totals. This influence is discussed in the uncertainty section of this report (Section 7).
- In the 1993/94 and 1996 investigations, seven Aroclors were evaluated instead of the PCB congeners. Therefore, Total PCB concentrations for those years were estimated by summing detected Aroclor concentrations, with non-detects represented as zero. Non-detects were represented as zero because of elevated detection limits associated with these data. Subsequent analyses of congeners at the sites in 1998, 2002, and 2005 have confirmed that estimates of Total PCBs calculated by summing the Aroclors including these detection limits would be highly inflated. Total PCB concentrations based on the congener data collected in 1998, 2002, and 2005 were estimated by multiplying the total summed concentration of 20 congeners by two, with non-detects represented as zero. This approach follows a NOAA procedure (O'Connor, 1997), which evaluated the relationship between the NOAA Status and Trends list of 18 congeners and Total PCBs in several data sets, and concluded that a multiplier of 2 is a reasonable estimator for Total PCBs. The application of zero for non-detect values is consistent with the method used by the San Francisco Water Board to calculate Total PCB estimates for ambient conditions within San Francisco Bay (San Francisco Bay Water Board, 1998c).
- Chemicals included in the summed groups were as follows:

Total 4,4-DDx (sum of 3 constituents)

4,4′-DDD
4,4′-DDE
4,4′-DDT

Total LPAH (6) (sum of 6 constituents)

Acenaphthene	Anthracene	Naphthalene
Acenaphthylene	Fluorene	Phenanthrene

Total LPAH (7) (sum of 7 constituents)

Total LPAH (6) + 2-methylnaphthalene

Total HPAH (6) (sum of 6 constituents)

Benzo(a)anthracene	Chrysene
Benzo(a)pyrene	Dibenzo(a,h)anthracene
Fluoranthene	Pyrene

Total HPAH (10) (sum of 10 constituents)

Benzo(a)anthracene	Chrysene
Benzo(a)pyrene	Dibenzo(a,h)anthracene
Benzo(b)fluoranthene	Fluoranthene
Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene
Benzo(k)fluoranthene	Pyrene

- Data collected at Western Bayside solely for the purpose of characterizing sediments at the Skeet Range (i.e., sample locations starting with SK or SKR) were evaluated, and a decision was made not to include these data to avoid bias that results from including a high density of results from one portion of the site for those constituents that were measured (i.e., PAHs and lead). If these results were included when calculating means and UCLs for risk evaluations, assumptions required to estimate these summary statistics would be violated, resulting in an under or over-estimation of the calculated parameters. These samples were analyzed only for lead and PAHs as part of a separate investigation, which found no further action was required to address these contaminants at the site (Battelle et al., 2004a). As discussed in Section 1.2.1, the Skeet Range, designated as IR Site 29, has been managed as a separate site.
- Three field replicates were collected and analyzed at all Western Bayside stations in the PRC/TtEMI field investigations conducted in 1993/94 (PRC, 1994). Given that none of the three replicates were designated as the "original" or "replicate" (as is standard for samples intended for quality assurance [QA] usage), all samples were considered of equal utility, and the mean of the replicates was used to represent a station. The detect status assigned to the mean value was a "U" if all the replicates were non-detect, "D" if all the replicates were detected and "M" if there was a mix of detects and non-detects.

4.1.2 Ambient and Reference Data Preparation

Regulatory guidance from the San Francisco Bay Water Board established ambient threshold values (ambient background values) for the ambient concentrations of toxic chemicals in San Francisco Bay sediments (San Francisco Water Board, 1998c). A complete description of the statistical methods employed in the development of these ambient threshold values can be found in Smith and Riege (1998). The ambient threshold concentrations were calculated from analytical chemistry results of sediments collected from the least impacted portions of San Francisco Bay, located away from point and non-point sources of chemical contamination. All stations sampled by the San Francisco Estuary Institute (SFEI) Regional Monitoring Program (RMP) and Bay Protection and Toxic Hot Spot Cleanup Program (BPTCP) near potential sources of contamination were excluded. The list of stations classified as ambient and used in the calculation of ambient threshold values were published in Table 2 of the regulatory guidance (San Francisco Bay Water Board, 1998c). The only chemical for which two separate thresholds were calculated was chromium, for which a difference between RMP and BPTCP concentrations was detected and was attributed to the difference in extraction procedures. For other chemicals, differences in the extraction procedure "did not appear to noticeably affect the chemical concentrations" (Smith and Riege, 1998). To maintain consistency with the protocol established in the regulatory guidance, the data used in plots and background comparisons to represent ambient conditions were from the combined set of stations classified as ambient, with the exception of chromium for which the data with the comparable extraction method were used.

Sediment grain size was taken into account by the models, acknowledging the influence of physical factors on chemical concentrations. Based on the data distribution as a function of particle size, one of three models was used to calculate the ambient thresholds. Separate thresholds were listed for coarse- (<40% fines) and fine- (>40% fines) grained sediments. The guidance noted that it is appropriate that the threshold values for metals, chlorinated hydrocarbons, and pesticides be based upon the bound for 100% fines. Very coarse-grained ambient sediments are essentially devoid of chlorinated compounds.

The thresholds serve as estimates of ambient chemical concentrations that can be compared to sediment chemistry results from a potentially contaminated site. A threshold was calculated as the 95% upper confidence limit on the 85th percentile of the ambient chemical concentrations (an upper tolerance limit, UTL). Parametric methods were used for normal (or normal after log transformation) data; non parametric methods were used if the data could not be shown to be normal. The choice of the percentile, p-value=0.85, was considered a policy decision intended to best "fit" the data clusters; p-values in the range of 0.7 to 0.95 were initially calculated and considered in the original report by the statistical consultants (Smith and Riege, 1998). These screening criteria are considered conservative as the false-positive rate on an 85th percentile UTL is quite high.

The published ambient values were intended to serve as a first-level screen for sediments throughout San Francisco Bay. The Tier 2 screening refinement step involves comparison of the concentration distributions observed on site to ambient distributions using distribution shift tests. It corresponds to Step 3a of the Navy's ecological risk assessment (ERA) process. The ERA process and distribution shift tests are described in Appendix B. Whenever available, the data used to represent ambient conditions are the sediment chemistry results collected by the BPTCP and SFEI RMP. All available sediment chemistry results from 1993 through 1997 from stations classified as ambient in the Ambient Sediment Chemistry report (San Francisco Water Board, 1998c) are used. The BPTCP stations were Paradise Cove, San Pablo Bay Island #1, San Pablo Bay Tubbs Island, North South Bay, and South South Bay. The RMP stations were Alameda, Davis Point, Dumbarton Bridge, Grizzly Bay, Honker Bay, Horseshoe Bay, Oyster Point, Pacheco Creek, Petaluma River, Pinole Point, Point Isabel, Red Rock, Richardson Bay, Sacramento River, San Bruno Shoal, San Joaquin River, San Pablo Bay, South Bay, and Yerba Buena Island. Samples were collected from the top 5 cm of sediment using a Van Veen sampler. Standard analytical methods were used and are listed in RMP and BPTCP Reports (San Francisco Bay Water Board, 1998a; San Francisco Estuary Institute, 1997). Method comparability was reviewed prior to comparisons. The data set includes metal concentrations quantified after either the aqua regia or hydrofluoric acid extraction procedures. The extraction procedure did not appear to noticeably affect the chemical concentrations. An exception was noted (Smith and Riege, 1998) for chromium where the concentrations detected after extraction with hydrofluoric acid were consistently greater than other values. Therefore, separate ambient values had been computed for the two extraction methods with chromium. The ambient chromium results using hydrofluoric acid were not comparable to site data and excluded from the data set.

The RMP and BPTCP databases have coded values for non-detected results and no reported DLs. For presentation in the box plots, one-half of the smallest detected concentration for a specific analyte in the RMP/BPTCP data set was used as the DL.

For organic compounds, both individual analytes and summed totals of analytes within a group (i.e., Total LPAHs, Total HPAHs, and Total PCBs) are presented. For consistency of presentation, total concentrations at ambient locations were summed from individual congeners following the same methodology applied to the Alameda site sampling results.

Sediment and Macoma tissue reference data from San Francisco Bay were collected from five 1998 reference sites (TtEMI, 1998a), and from five 2001 reference sites used in the Hunters Point Shipyards Parcel F Validation Study (Battelle et al., 2005a). The 10 reference sites are as follows:

1998 stations (Figure 4-1):

RL01–North South Bay (BPTCP station number 20013)
RL02–Alameda (RMP station number BB70)
RL03–Oakland Entrance (offshore from Western Bayside [Chapman et al., 1987])
RL04–Yerba Buena (RMP station number BC11)
RL05–Paradise Cove (BPTCP station number 20005).

2001 stations (Figure 4-2):

AB-Alameda Buoy (same general location as RL02)
PC-Paradise Cove (same general location as RL05)
AE-Alcatraz Environs
BF-Bay Farms
RR-Red Rocks.

In addition, forage fish were collected in 2001 from Seaplane Lagoon (IR Site 17) and from two of the San Francisco Bay reference areas, Bay Farms (BF) and Paradise Cove (PC), in support of the IR Site 17 RI (Battelle et al., 2004b). These data were used to calculate BAFs to represent biotic uptake in *Macoma* (Section 4.5.2.3) and forage fish (Section 4.5.3.2) for all areas in Alameda Point. The reference sediment data and the resulting BAFs were then used to calculate exposure point concentrations (for sediment, invertebrate tissue, and forage fish) to reflect reference conditions for the purpose of comparison in the human health risk assessment (Section 5) and ecological risk assessment (Section 6).

4.1.3 Data Presentation

4.1.3.1 Sediment Chemistry Box Plots

Box plots are presented in Appendix A for all compounds that were detected in one or more samples from the 1993, 1994, 1996, 1998, 2002, and 2005 field investigations. Box plots summarize information about the shape and spread of the distribution of concentrations from a data set. The Y-axis displays the observed concentrations of the data in the appropriate units. The bottom edge of the box represents the lower quartile (Q1, equivalent to the 25th percentile) of the data; 25% of the data falls below this value. The upper edge of the box represents the third or upper quartile of the data (Q3, equivalent to the 75th percentile); 25% of the data are above this value. The height of the box (i.e., the interquartile range, Q3-Q1) provides a measure of the spread of the concentrations. The horizontal line across the box represents the median (i.e., the 50th percentile or second quartile) of the data, providing a measure of the center of the concentration distribution. In a normal distribution, the median line divides the box into approximately two equal parts, indicating that the shape of the concentration distribution is symmetric. If the median divides the box into unequal parts, it indicates that the distribution is skewed or nonsymmetric. Extending vertically beyond the box are dashed lines (i.e., "whiskers") that reach to the minimum and maximum.

Each site-specific sampling event is plotted separately next to a plot of all ambient data. In every plot, all dates or depths are listed on the X-axis. When no box plot appears above a specific date or depth for a specific analyte, it is indicative that no results for that analyte were available for a given year or depth. The total number of samples and the number of samples with detected concentrations are shown above each individual plot as "d/n." Open circles are used to plot non-detected concentrations at one-half the reported DL. An "x" represents a detected value. Various comparison values, such as the San Francisco Bay ambient threshold value (i.e., the Upper Tolerance Level or UTL) for less than 100% fines (San Francisco Bay Water Board, 1998a), also are displayed on each plot as horizontal lines in cases where the comparison value is within the range of site concentrations. Comparison values that exceed the range of site or ambient concentrations are not plotted, but are listed along the top axis.

When available, the data collected by the BPTCP and RMP were used to represent ambient conditions in San Francisco Bay and are shown side by side with the field sampling results (see Section 4.1.2 for a discussion of the ambient sediment data). All available sediment chemistry results from 1993 through 1997 from stations classified as ambient in *Ambient Concentrations of Toxic Chemicals in Sediments* (San Francisco Water Board, 1998c) were used for this purpose. For chromium, because of different sample preparation and analytical techniques by the BPTCP, the data were not considered comparable, and therefore only the RMP results were shown. For presentation in the box plots, one-half of the smallest detected concentration for a specific analyte in the RMP/BPTCP data set was used as the DL.

For organic compounds, both individual analytes and summed totals of analytes within a group (i.e., Total LPAHs, Total HPAHs, and Total PCBs) are presented. For consistency of presentation, total concentrations at ambient locations were summed from individual congeners following the same methodology applied to the field sampling results.

4.1.3.2 Sediment Chemistry Bubble Plots

Bubble plots are presented in Appendix A for all chemicals detected during the field efforts. Plots for specific chemicals are also presented as part of the discussion in Sections 4.2 and 4.3, where appropriate. A bubble plot is a graphical representation of spatial data that presents the number and location of samples as well as the relative concentration observed at each location. Results can be classified based on detect status and/or sample collection activity, represented by using different colors or line types. Each measurement is represented by a circle or bubble which is plotted on a map of the site. The size of the bubble is proportional to the relative concentrations in the data set; in other words, the relatively smaller concentrations are represented by smaller bubbles and the relatively larger concentrations are represented by larger bubbles. Different colored bubbles are used to allow comparisons of multiple data collection events. Because each data point is represented as a separate bubble, the variability of the results can be visualized.

To assist the reader in differentiating between chemical concentrations shown in these figures, several steps were taken. First, the data were transformed (for presentation purposes only) by taking the square root of all the concentrations. Concentrations plotted in this manner are proportional to the area of the circle, whereas a plot of untransformed data would be proportional to the diameter of the circle. Square root transformations facilitate presentation of a greater range of concentrations on a map without having some bubbles obscuring others and allows better resolution between some of the lower concentrations represented by the smaller circles, which otherwise would appear to be of roughly equal size. Secondly, values exceeding the ecologically-based sediment effects benchmarks (i.e., the Effects Range-Median or ER-M) were represented by circles with thicker lines. The associated legend for each of these figures presents the original concentrations measured during the sampling event. For a few sampling locations (and a few ER-M legend symbols), a triangle is used to represent values above the maximum value established for the bubbles.

4.1.4 Statistical Approach for EPC Calculations

U.S. EPA recently updated their guidance for EPC calculations, originally developed as a supplement to U.S. EPA's *Risk Assessment Guidance for Superfund (RAGS), Volume 1 – Human Health Evaluation*

Manual (U.S. EPA, 1989a). The updated guidance, *Calculating Exposure Point Concentrations at Hazardous Waste Sites* (U.S. EPA, 2002), plus recommendations in the associated software program ProUCL developed for U.S. EPA by Lockheed Martin (U.S. EPA, 2001a), were followed to calculate EPCs for Alameda Point results.

U.S. EPA recommends using the average concentration to represent "a reasonable estimate of the concentration likely to be contacted over time" (U.S. EPA, 1989a) and "because of the uncertainty associated with estimating the true average concentration at a site" recommends that the 95% upper confidence limit on the mean (UCL) be used. The choice of UCL is based on the distribution of the data with distribution assumptions tested using the Shapiro-Wilk W-test. If the p-value indicates that the untransformed data are not significantly different from normal ($p>0.05$), a normal distribution is assumed. If the p-value is 0.05 or less, then normality is rejected, the data are log-transformed, and the distribution is re-examined. If the log-transformed data are not significantly different from normal ($p>0.05$), then the data are considered to be distributed lognormally. If the p-value is 0.05 or less, then log normality is rejected and a nonparametric (distribution free) UCL is used.

The UCL for normally distributed data is based on the well-known *t*-statistic. For lognormal data, the Land method using the *H*-statistic is typically used (U.S. EPA, 2002, Exhibit 3; Gilbert, 1987). U.S. EPA recommends an alternative to the *H*-statistic for lognormal data depending on the degree of skewness of the data and sample size (U.S. EPA, 2002, Exhibit 7; U.S. EPA, 2001a, Table 1). The alternative is based on the Chebyshev inequality using minimum variance unbiased estimates (MVUE) of the lognormal parameters (U.S. EPA, 2002, Exhibits 5 and 6). For data that are not determined to be distributed normally or lognormally, a nonparametric UCL is computed. Nonparametric UCLs are based on either the Chebyshev inequality, which uses the sample mean (arithmetic average) and sample standard deviation (U.S. EPA, 2002, Exhibit 12), or more frequently, a bootstrap method (U.S. EPA, 2002, Exhibit 10 and 11; U.S. EPA, 2001a, Sections 5.9 and 5.10). Finally, if the computed UCL is greater than the maximum detected value, then the maximum detect is used as the EPC.

4.1.5 Statistical Approach for Calculation of Bioaccumulation Factors

Tissue concentrations of organisms exposed to sediments were used in conjunction with sediment chemistry results to quantify the biotic uptake. A bioaccumulation factor (BAF) was estimated for analytes accumulating into tissue using the results of laboratory bioassay data for shellfish (*Macoma*) paired with sediments collected at the same time, and field-collected fish tissue samples, paired with sediments collected from the vicinity of the fish sampling locations. A ratio estimate using the sediment chemistry results and tissue results was used to model the bioaccumulation response (see Appendix C for a more complete discussion) based on the following equation:

$$BAF = \frac{C_{tissue}}{C_{sed}} \qquad (4\text{-}1)$$

where: C_{sed} = COPC-specific concentration in surface sediments (mg COPC /kg sediment dry weight [DW]).

C_{tissue} = COPC-specific concentration in tissue (mg COPC /kg tissue, where tissue results are reported in DW for use in ecological risk assessment, or in wet weight for use in human health risk assessment)

4.2 Distribution of Chemicals in Western Bayside Sediment

This section describes the sediment contaminants potentially associated with Navy activities at Western Bayside, and evaluates the spatial distribution of these chemicals. These assessments are based on current and historical sediment chemistry data for Western Bayside and are supported by graphics (box plots and bubble plots) as shown in Appendix A.

A summary of the analytical results for all constituents in Western Bayside surface sediment, including the total number of samples collected, number of detections, and minimum and maximum concentrations, is presented in Table 4-1. Data in Table 4-1 are summarized by year for each constituent so that differences between years are readily discernible. An ecological screening value for sediment, ER-Ms, published ambient levels (e.g., UTLs), and U.S. EPA Region 9 preliminary remediation goals (PRGs) for an industrial exposure scenario (U.S. EPA, 2004a) are included for comparison purposes. Summaries of 2005 chemistry results for subsurface sediment are presented in Table 4-2.

4.2.1 Distribution of Inorganic Constituents at Western Bayside

4.2.1.1 Distribution of Inorganic Constituents in Surface Sediment

Box plots of the 11 inorganic constituents analyzed in Western Bayside surface sediment in 1993/94, 1996, and 2005 are presented in Appendix A. As described in Section 4.1.3, the box plots also contain data from San Francisco Bay Water Board ambient stations (i.e., the UTLs). Available sediment quality benchmarks are included on the plots to facilitate comparisons. Bubble plots illustrating the spatial distribution of inorganic chemical constituents at Western Bayside are shown in Appendix A.

Antimony, arsenic, chromium, copper, nickel, and zinc appear to have higher concentrations in the 1993/94 samples than in 1996 or 2005. While it is uncertain why the 1993/94 concentrations for these constituents are higher than in subsequent years, there are several possible explanations:

- Concentration differences could be grain size related. For example, contaminants preferentially partition to fine-grained sediments, which have a larger surface area for contaminants to sorb to. Figure 4-3 shows that the finest grained sediments were collected in 1993/94, and the coarsest grained sediments were collected in 1996.
- Differences between years may be a function of differences in laboratory measurement methods.
- Differences may be due to gradual mixing of surface sediments with either subsurface sediment or cleaner sediment deposited on top.

Antimony, mercury, and nickel were the only inorganic constituents that exceeded ER-M values in surface sediment in any year. Mercury exceeded its ER-M at one location (Sample B-11) in 1993/94 (Figure 4-4), while nickel exceeded its ER-M at a number of sampling locations in 1993/94 and 2005 (Figure 4-5). It should be noted, however, that the San Francisco Bay ambient upper tolerance limit (UTL) for nickel (112 milligram per kilogram [mg/kg]) is over twice as high as the nickel ER-M of 51.6 mg/kg, and all nickel concentrations measured were well within or below the ambient distribution. Antimony exceeded its ER-M at a number of locations at Western Bayside in 1993/94. However, it is important to note that elevated concentrations of antimony were measured in 1993/94 in other Alameda locations (Pier Area, Breakwater Beach, Seaplane Lagoon), and the markedly elevated concentrations of antimony measured in 1993/94 were not observed in any subsequent sampling event (e.g., 1996, 1998, 2002, and 2005) (Figure 4-6). The high concentrations in 1993/94 are believed to be erroneous. A review of 1993/94 antimony data did not find a definitive discrepancy in the data that would account for a large-scale error. However, discrepancies were noted with respect to the various dilution factors. The logic in the use of some dilution factors was not always apparent from the raw instrument files and bench sheets. It appears that dilutions were taken both at the bench and at the instrument. The final concentration reported was a calculated adjustment based on hand written dilution factors on the bench sheet. The inability to replicate the 1993/94 antimony concentrations in subsequent years, including in samples collected closer to the outfalls, indicates that antimony is not a COPEC.

Chromium, mercury, and silver were the only inorganic constituents at Western Bayside that had detected concentrations exceeding their respective San Francisco Bay ambient UTLs. Chromium exceeded its ambient UTL in a number of 1993/94 samples, but not in any 1996 or 2005 samples (Figure 4-7). Mercury exceeded its ambient UTL only at 1993/94 sample location B-11 (Figure 4-4), while silver exceeded its ambient UTL only at 2005 sampling location WBC-15. Silver concentrations were highest in the vicinity of Outfall EE on the northern shoreline of Western Bayside (Figure 4-8).

4.2.1.2 Distribution of Inorganic Constituents in Subsurface Sediment

Subsurface data is presented for 2005 samples only. Subsurface samples were collected at 5-25 cm, 25-50 cm, and 50-100 cm below the sediment surface. Samples collected at 50-100 cm were archived (frozen) to be analyzed later if 25-50 cm samples contained unacceptably high concentrations of COPCs (Battelle et al., 2005b; Lauenstein and Cantillo, 1993; U.S. EPA and COE, 1991; U.S. EPA, 2001c). Summaries of 2005 inorganic constituent results for the 0-5 cm, 5-25 cm, and 25-50 cm depth intervals are presented in Table 4-2. Box plots for inorganic constituents at depth are presented in Appendix A. No consistent patterns were noted across chemical constituents at depth. Several inorganic constituents had maximum subsurface concentrations greater than maximum surface concentrations. For example, maximum concentrations of copper, lead, and mercury occurred in the 25-50 cm depth interval, though none of these constituents showed a consistent pattern of increasing concentrations with depth. Maximum concentrations of copper, lead, and mercury at depth exceeded ambient UTLs but not ER-Ms. Maximum concentrations of cadmium occurred in the 5-25 cm depth interval and exceeded the ambient UTL but not the ER-M. Cadmium showed a pattern of increasing concentration with depth. Antimony, arsenic, nickel, selenium, and zinc were all uniformly distributed across depths and did not exceed ambient UTLs at any depth. Maximum silver concentrations were in surface sediments.

4.2.2 Distribution of Organic Constituents at Western Bayside

4.2.2.1 Distribution of Organic Constituents in Surface Sediment

Box plots of the organic constituents analyzed in Western Bayside surface sediment in 1993/94, 1996, and 2005, including Total PCBs, Total PAHs (HPAH and LPAH), and Total DDT, are presented in Appendix A. Bubble plots illustrating the spatial distribution of chemical constituents at Western Bayside also are shown in Appendix A.

One organic constituent, 4,4'-DDT, exceeded its respective ER-M in Western Bayside surface sediment (Figure 4-10). 4,4'-DDT exceeded the ER-M only at 1996 sampling location WB-001.

No other organic chemicals exceeded ER-M thresholds, but several chemicals were elevated compared to the San Francisco Bay ambient UTLs (Table 4-1). The three detected concentrations of dieldrin in 2005 exceeded the ambient UTL for dieldrin. Although not detected in 1993/94 or 1996, all detection limits for those years were greater than the dieldrin ambient UTL. Total 4,4'-DDx exceeded the ambient UTL at one station each in 1993/94 (location B-5), 1996 (location WB-01), and 2005 (location WBC-7). PAHs at Western Bayside were elevated compared to ambient UTLs. Highest concentrations of PAHs were in the northern portion of Western Bayside near the junction of Western Bayside and Oakland Inner Harbor

(Figure 4-11). Individual PAH compounds that were elevated compared to ambient UTLs were benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i,)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, acenaphthene, fluorene, and phenanthrene. As with the PAHs, dibenzofuran concentrations were highest in the northern portion of Western Bayside just offshore of the Area 1b Former Burn Area and declined along a north to south axis.

Pesticides were detected infrequently in Western Bayside surface sediment. *Alpha*-chlordane was detected in 4 samples in 2005 and 1 sample in 1996, and *gamma*-chlordane was detected in 5 of 21 samples from 2005. Aldrin, *alpha*-BHC, endosulfan II, endrin aldehyde, *gamma*-BHC, heptachlor, and heptachlor epoxide were all detected in a single 2005 sample (endrin aldehyde at WBC-3, all others at WBC-8).

Tributyl tin was detected in 9 of 12 samples in 1993/94 and in 17 of 22 samples in 2005. Concentrations reported in the 1993/94 samples were much higher than concentrations reported in 2005 samples, even when the 2005 samples were taken in relatively close proximity to 1993/94 sample locations.

4.2.2.2 Distribution of Organic Constituents in Subsurface Sediment

Summaries of 2005 organic results for the 0-5 cm, 5-25 cm, and 25-50 cm depth intervals are presented in Table 4-2. Box plots for organic constituents at depth are presented in Appendix A. Concentrations of PAHs were generally higher in the 5-25 cm depth interval than in the surface sediment (Figure 4-12), and were greatly elevated at this depth interval at location WBC-19, where a few individual PAHs exceeded their ER-Ms at this depth. The reasons for the elevated PAHs in the subsurface sediment at this location are not clear. This sampling location is not adjacent to an outfall, but past uses may have been a contributor to the PAHs at this location. Total PCB concentrations appeared to increase slightly with depth, as shown in Figure 4-13, but detected concentrations of Total PCBs did not exceed ER-M at any station or depth. Total DDx concentrations are relatively uniform across depths, while tributyl tin concentrations generally decrease with depth. 4-4'DDT exceeded its ER-M at one location (WBC-22) in the 25 – 50 cm layer.

Six pesticides other than the DDx compounds were detected in one or more subsurface samples, but these pesticides did not exceed ER-M thresholds. G*amma*-chlordane and *alpha*-chlordane both indicate decreasing concentrations with depth. Dieldrin, endosulfan II, and endrin aldehyde were all detected slightly more frequently in subsurface samples than in surface samples, but maximum detected concentrations were in the 0 – 5 cm surface interval. Endosulfan I, which was not detected in surface sediments, was detected in one subsurface sample in the 5-25 cm depth interval.

4.2.3 Distribution of Radionuclides at Western Bayside

Radium concentrations were measured at a subset (i.e., eight) of the 2005 sample locations (as indicated in Table 3-1), and targeted outfalls and areas adjacent to IR Sites 1 and 2. Radium-226 was detected in one surface sample and four subsurface samples at Western Bayside. Maximum radium-226 concentrations occurred in the 25-50 cm depth interval (0.45 picoCuries per gram [pCi/g]). Radium-228 was detected in two surface samples and five subsurface samples. Detected concentrations of radium-228 were relatively uniform with depth. Box plots of radium concentrations in Western Bayside sediment are presented in Figure 4-14. Maximum concentrations of radium-228 were at location WBC-16, while maximum concentrations of radium-226 were at WBC-19. Both these locations are in the northern area of Western Bayside adjacent to the IR Site 1 disposal area, which is known to have received radiological waste.

4.2.4 Western Bayside Sediment Background Comparisons

Statistical background comparisons were conducted using surface sediment data for Western Bayside and the background data sets described in Section 4.1.2. The background comparisons consist of four statistical tests (Student's *t*, Gehan, quantile, and slippage) that compare the distribution of Western Bayside concentrations to the distribution of concentrations in the background data sets. A failure ($p<0.05$) for any one of the four tests results in a classification of site sediments different than background. The protocol for the background comparisons is described in detail in Appendix B. Because concentrations of inorganic constituents, in particular, are typically correlated with sediment grain size, comparisons to background were conducted three ways: (1) using the entire background data set, (2) using the background data set for fine grained sediments only, and (3) using the background data set for coarse-grained sediment only. Due to apparent changes over time in the concentration of several constituents, background comparisons were made using Western Bayside data from the All Years data set and from the 2005 Surface data set.

A summary of the results of Western Bayside background comparisons for All Years are presented in Tables 4-3 and 4-4 for inorganic constituents and organic chemicals, respectively. In the comparisons using All Years data, three inorganic constituents (antimony, chromium, and lead) in fine-grained sediments failed at least one of the statistical comparisons, indicating that Western Bayside concentrations were elevated compared to ambient levels in fine-grained sediments. Comparisons could not be conducted for selenium and silver in fine-grained sediments due to insufficient number of detects at Western Bayside. No inorganic constituents in coarse–grained sediments were statistically significantly different from ambient coarse-grained sediments, although comparisons could not be conducted for antimony or selenium due to insufficient numbers of detects. When all stations were compared using the entire background data set, irrespective of grain-size, chromium was the only inorganic constituents that failed any of the four statistical tests.

As shown in Table 4-4, background comparisons could not be conducted for pesticides other than Total DDx due to insufficient numbers of detects in Western Bayside sediment. Sixteen of the 17 PAH analytes had sufficient numbers of detects to conduct background comparisons. Of those 16, benzo(k)fluoranthene, dibenzo(a,h)anthracene, 2-methylnapthalene, acenaphthene, acenaphthylene, anthracene, and fluorene were significantly elevated above ambient. Tributyl tin, Total 4,4'-DDx, Total HPAHs, Total LPAHs, Total PAHs, and Total PCBs were all elevated in Western Bayside sediment compared to San Francisco Bay ambient conditions when the comparison used Western Bayside data for All Years.

Results of Western Bayside background comparisons for 2005 data are also presented in Tables 4-3 and 4-4 for inorganic constituents and organic chemicals, respectively. As shown in Table 4-3, no inorganic constituents had concentrations at Western Bayside that were elevated compared to ambient in fine-grained, coarse-grained, or combined grain size 2005 data sets. In the background comparisons using 2005 organic data (Table 4-4), only tributyl tin was elevated compared to ambient conditions. Concentrations of individual PAH compounds, Total HPAH, Total LPAH, Total PAH, Total DDx, and Total PCBs at Western Bayside were not significantly different than ambient concentrations when only the 2005 data were considered. Comparisons could not be conducted on pesticides other than the 4,4'-DDx compounds due to lack of detects in Western Bayside sediment.

4.2.5 Summary of Western Bayside Sediment Data

Surface sediment concentrations for all inorganic and organic constituents were below the ER-M values in all 2005 samples, except for nickel, where site concentrations were less than ambient concentrations. No inorganic constituents exceeded ambient concentrations in 2005 surface sediment samples except for silver at one location, which was less than the ER-M value. Only chromium and antimony were statistically greater than ambient conditions, and only when data from All Years were included. A review of the box plots shows that it is only the 1993/94 measurements that appear elevated relative to ambient.

It should be noted that the antimony concentrations in 1993/94 were determined to be erroneous. Chromium concentrations in the 1993/94 data set were less than the ER-M value. In surface sediments, antimony, mercury, and nickel were the only inorganic constituents that exceeded ER-M values in any year (1993/94, 1996, and 2005). Mercury exceeded its ER-M at one location in 1993/94 (site concentration of 0.847 mg/kg compared to an ER-M value of 0.71 mg/kg), and nickel concentrations, while greater than the ER-M in 1993/94 and 2005, were less than ambient concentrations. In the subsurface sediment (collected only in 2005), no ER-M values were exceeded for inorganic constituents, except for nickel, which was less than the ambient concentration. Pesticides (other than Total DDx) were infrequently detected in Western Bayside sediment. No pesticides, PCBs, or PAHs in surface sediment exceeded ER-M values during the 2005 sampling event. When data from All Years were evaluated, PAHs and Total DDx were elevated in surface sediments compared to ambient conditions, but only 4,4'-DDT exceeded its respective ER-M value at one location in 1996 (site concentration of 11 μg/kg compared to an ER-M value of 7 μg/kg). In the subsurface sediment (2005 only), one sampling location had concentrations of 4,4'-DDT greater than the ER-M, and one location had concentrations of several PAHs that exceeded ER-M values. The 2005 sampling stations that are located adjacent to onshore groundwater monitoring wells did not detect locally elevated or unacceptable concentrations of chemicals of potential concern (COPCs). In addition, there is no indication that discharges, runoff, or groundwater has resulted in contaminant levels in offshore sediments that pose an unacceptable risk.

4.3 Distribution of Chemicals in Breakwater Beach Sediments

This section describes the sediment contaminants potentially associated with Navy activities at Breakwater Beach, and evaluates the spatial distribution of these chemicals. These assessments are based on historical sediment chemistry data for Breakwater Beach and are supported by graphics (box plots and bubble plots) presented in Appendix A. Breakwater Beach is represented by 21 sediment core samples and 7 surface sediment grab samples collected in 1996, 5 surface sediment samples collected in 1998, and 5 surface samples collected in 2002.

Table 4-5 summarizes surface sediment contaminant concentrations at Breakwater Beach. Data in Table 4-5 are summarized by year for each constituent. In addition, the table presents several benchmarks for comparison purposes, including the ecological screening value for sediment ER-Ms, published ambient levels, and U.S. EPA Region 9 PRGs for an industrial exposure scenario (U.S. EPA, 2004a). Summaries of 2005 chemistry results for subsurface sediment are presented in Table 4-6.

4.3.1 Distribution of Inorganic Constituents at Breakwater Beach

4.3.1.1 Distribution of Inorganic Constituents in Surface Sediment

Box plots of the 11 inorganic constituents that were analyzed in Breakwater Beach surface sediment in 1996, 1998, and 2002 are presented in Appendix A. The box plots also contain data from San Francisco Bay ambient stations used by the San Francisco Bay Water Board, as described in Section 4.1.2. Available benchmarks are also included on the plots to facilitate comparisons. Box plots facilitate comparisons in observed concentrations between years. Apparent differences in concentrations between years may be attributed to differences in analytical methods (including sample preparation methods), sample locations, or actual differences in concentrations. Bubble plots illustrating the spatial distribution of chemical constituents at Breakwater Beach are shown in Appendix A.

Nickel was the only inorganic constituent that had concentrations exceeding the ER-M value, but as noted previously, the ER-M for nickel is less than half the nickel ambient UTL. Concentrations of chromium, copper, lead, mercury, selenium, silver, and zinc exceeded ambient UTLs in at least one surface sediment sample in at least one year. Mean concentrations of most inorganics were higher in 1998 and 2002 samples than in 1996 samples. These differences appear to be related to sediment grain size. All 1998 and 2002 samples were comprised of greater than 65% fines, while 12 of the 21 samples in 1996 contained less than 65% fines, with 6 samples from 1996 classified as "coarse" grained (i.e. less than 40% fines).

4.3.1.2 Distribution of Inorganic Constituents in Subsurface Sediment

As illustrated in the box plots, all inorganic constituents at Breakwater Beach had lower median concentrations in subsurface sediment than in surface sediment. Box plots showing inorganic concentrations across depth intervals are shown in Appendix A. It should be noted that the subsurface samples at Breakwater Beach represent a greater depth interval than Western Bayside subsurface samples, with Breakwater Beach subsurface samples extending from 75 – 180 cm below the sediment surface. Copper, lead, mercury, silver, and zinc had at least one subsurface sample exceeding their respective ambient UTLs. The maximum subsurface concentration of mercury (0.7 mg/kg) was equal to the mercury ER-M, and the maximum subsurface concentration of nickel exceeded the nickel ER-M, but was less than the nickel ambient UTL.

4.3.2 Distribution of Organic Chemicals at Breakwater Beach

4.3.2.1 Distribution of Organic Constituents in Surface Sediment

Box plots of the organic constituents that were analyzed in Breakwater Beach surface sediment in1996, 1998, and 2002, including Total PCBs, Total PAHs (HPAH and LPAH), and Total DDT, are presented in Appendix A. Bubble plots illustrating the spatial distribution of organic chemical constituents at Breakwater Beach also are shown in Appendix A.

No organic chemicals at Breakwater Beach exceeded ER-M values. Total DDx, Total PCBs, and 13 individual PAH constituents exceeded ambient UTLs at Breakwater Beach. Highest levels of DDx and PCBs were observed at the western end of Breakwater Beach adjacent to outfalls M and N (locations BB001 and BB004), and offshore of outfalls O and P, located midway along the Breakwater Beach shoreline (locations BB008 and BB011) (Figure 4-15). Highest concentrations of PAHs were observed along the Breakwater Beach shoreline adjacent to outfalls O and P (Figure 4-16). Dieldrin, *alpha*-chlordane, and *gamma*-chlordane were the only pesticides detected more than once in surface sediment samples at Breakwater Beach, and then only at very low levels in the 2002 samples.

4.3.2.2 Distribution of Organic Constituents in Subsurface Sediment

Evaluation of subsurface concentrations at Breakwater Beach was based on the 1996 data. The 1998 and 2002 sampling efforts did not collect data at depth. It should be noted that the subsurface samples at Breakwater Beach represent a greater depth interval than Western Bayside subsurface samples, with Breakwater Beach subsurface samples extending from 75 – 180 cm below the sediment surface. Total PCBs were detected in subsurface sediments at three stations (BB001, BB005, and BB004), but exceeded the ER-M value only at BB004. No other organic constituents exceeded ER-Ms in subsurface sediment. PAHs were generally lower in concentration and detected less frequently in subsurface samples than in surface samples. Pesticides other than 4,4'-DDx were not detected in subsurface samples. Total PCBs and Total 4,4'-DDx were the only organic constituents with higher maximum concentrations in subsurface sediment than in surface sediment.

4.3.3 Distribution of Radionuclides at Breakwater Beach

In accordance with the Final Offshore Sediment Study Workplan (Battelle et al., 2005b), radium samples were not collected at Breakwater Beach in 2005. In 1996, radium was analyzed in sediment core samples at four locations (BB003, BB004, BB006, and BB009) at Breakwater Beach, with BB003 analyzed only at depth. The depth intervals of the cores were approximately 0 – 2.7 ft and 2.7 – 5.3 ft. Radium-226 was detected in three of the six samples, and radium-228 was detected in two of the six samples. These data are considered unfit for use in estimating potential risks because of the deep surface layer interval and because it was not possible to calculate a 95% UCL for these data due to the small sample size, low detection rates, and high DLs. In addition, detected radium concentrations were low. In the 0 – 2.7 ft cores collected in 1996, the maximum radium-226 concentration was 1.11 pCi/g. The maximum radium-228 concentration was 0.65 pCi/g. The low detected radium concentrations are consistent with the fact that there would appear to be no transport pathway for radium isotopes from the NAS Alameda buildings where radium dial painting historically occurred to Breakwater Beach (Figure 2-4).

4.3.4 Breakwater Beach Sediment Background Comparisons

The same set of four statistical tests used to conduct background comparisons at Western Bayside (Section 4.2.4) were used to conduct comparisons of Breakwater Beach surface sediment concentrations to ambient concentrations. A failure ($p<0.05$) for any one of the four tests results in a classification of site sediments different than background. The protocol for the background comparison test is described in detail in Appendix B. Because concentrations of inorganic constituents, in particular, are typically correlated with sediment grain size, comparisons to background were conducted three ways: (1) using the entire available background data set, (2) using the background data set for fine–grained sediments only, and (3) using the background data set for coarse–grained sediment only.

A summary of the results of Breakwater Beach background comparisons are presented in Tables 4-7 and 4-8 for inorganic constituents and organic chemicals, respectively. For inorganic constituents in fine-grained sediment, chromium, copper, lead, mercury, and silver failed at least one of the four statistical tests, indicating that Breakwater Beach concentrations of these constituents are elevated compared to ambient conditions. Cadmium and selenium were detected in fewer than 50% of the fine-grained Breakwater Beach samples, violating one of the assumptions associated with the background comparisons. Therefore, these two constituents were determined to be different from ambient based on a qualitative analysis of box plots. No coarse-grained sediment locations at Breakwater Beach had inorganic concentrations different than ambient concentrations. For the combined data set, chromium, lead, and mercury each failed at least one of the background comparison tests and were determined to be different from ambient. Selenium and silver were each detected in fewer than 50% of Breakwater Beach samples and determined to be different from ambient using qualitative methods.

In the background tests for organics, only five individual PAHs, Total HPAH, Total PAH, and Total DDx were detected in enough Breakwater Beach samples to conduct background comparisons. Only perylene and Total DDx at Breakwater Beach were not different than ambient conditions.

4.3.5 Summary of Breakwater Beach Sediment Data

No ER-M values were exceeded in surface sediment for any inorganic constituents or organic chemicals, except for nickel, during any sampling event. Nickel was the only analyte at Breakwater Beach that exceeded its ER-M in surface sediment, but nickel concentrations at Breakwater Beach were not different from San Francisco Bay ambient nickel concentrations. Based on the All Years data set, cadmium, chromium, copper, lead, mercury, selenium, and silver appeared elevated at Breakwater Beach compared to ambient conditions. Statistical comparisons to ambient could not be conducted for the majority of organic chemicals at Breakwater Beach due to insufficient numbers of detections in all years sampled. Of those detected in enough surface sediment samples to support statistical comparisons, Total LPAHs, Total HPAHs, Total PAHs, and four individual PAH constituents (benzo(a)pyrene, benzo(b)fluoranthene, fluoranthene, pyrene) were elevated compared to ambient conditions, but were less than ER-M values. Highest concentrations of PAHs were observed along the Breakwater Beach shoreline adjacent to outfalls O and P. In the subsurface sediment, no ER-Ms were exceeded for inorganic constituents except for nickel (which was less than ambient), and the only organic chemical that exceeded the ER-M was Total PCBs at one location (PCBs at a depth of 75 to 180 cm was 210 μg/kg compared to an ER-M value of 180 μg/kg).

4.4 Summary of Tissue Data

This section summarizes of the laboratory bioaccumulation tests conducted at Western Bayside in 1993/94 and from Breakwater Beach in 1998. At both sites, *M. nasuta* tissues were exposed to site-specific sediments during a 28-day flow-through bioaccumulation test.

The tissue data were prepared for analysis following the guidelines discussed in Section 4.1.1. *M. nasuta* tissue data were used in both wet weight and dry weight units. Dry weight results were converted to wet weight units using percent moisture as follows:

$$\text{Wet Weight} = \left[\frac{100 - \%\,\text{moisture}}{100}\right] \times \text{Dry Weight} \qquad (5\text{-}1)$$

Total concentrations were estimated for PCBs, LPAHs, HPAHs, and DDT by summing concentrations from defined compounds within these groups. For the majority of the 1993/94 Western Bayside tissue samples, no organic constituents were detected. Using one-half the reported DLs for individual constituents can be considered a conservative estimate of actual concentrations, and if these estimates, when considered in the context of ecological or human health risk screening, show no unacceptable impact, it is safe to assume the actual concentrations present are of no concern. In making this statement it is important to recognize that DLs were much higher for tissues measured in Western Bayside in 1993/94 than for bioaccumulation studies that were performed in 1998 at Breakwater Beach and other locations at Alameda, and that values representing one-half the DLs were higher than measured values at the other locations where more sensitive measurement methods were employed.

4.4.1 Western Bayside Tissue Data

Laboratory bioaccumulation tests using the clam *Macoma nasuta* were conducted in 1993 and 1994 using surface sediment samples collected at seven locations (B02, B03, B05, B07, B11, B13, and B14). The results from the 1993/94 bioaccumulation test reflect the average tissue concentrations from five replicate samples from each station. Table 4-9 summarizes the *M. nasuta* tissue results in dry weight units for individual chemicals and for the total concentrations within the suites of chemicals defined in Section 4.1.1. Chemical analyses were performed for trace metals, pesticides, butyl tins, PAHs, and PCBs. For a chemical with no detected results, one-half of the detection limit is listed and is enclosed with brackets. The standard deviation was calculated for the combined set of results, including detected concentrations and one-half the detection limits for non-detects. For Total HPAH and Total LPAH concentrations, the table illustrates the impact of the high detection limits associated with individual constituents on the calculation of a total result.

Arsenic, copper, and zinc were detected in tissues of *Macoma* exposed to Western Bayside sediments at all seven sampling locations, while lead was detected in five samples, and mercury and nickel were detected at three stations each. No other inorganic constituents were detected in *Macoma* tissue at Western Bayside. Qualitative comparisons were performed between chemical concentrations in *M. nasuta* tissue from both Western Bayside and from the reference locations. Using the summary statistics provided in Table 4-9, the maximum observed *M. nasuta* tissue concentrations were compared to the tissue threshold values, representing the 90th percentile of the concentrations observed in *M. nasuta* tissue from reference locations (Battelle et al., 2005a). The 90th percentile thresholds were used in the Seaplane Lagoon RI (Battelle et al., 2004b) and were based on a proposed methodology reviewed and approved by the regulators (Appendix G-1 in Battelle et al., 2005a). The conservative 90th percentile (q90) was selected because of sample size considerations and their consistent accuracy in tissues exposed to varied sediment types (fine- and coarse–grained reference locations). Maximum concentrations of arsenic, lead, mercury, and 4,4'-DDE in Western Bayside *M. nasuta* tissue had at least one replicate out of the five in at least one location exceed their respective 90th percentile tissue thresholds. Given that none of the other organic constituents were detected in tissue, no attempt to compare values (DLs) to 90th percentiles was made.

4.4.2 Breakwater Beach Tissue Data

Breakwater Beach tissue data are represented by laboratory *Macoma nasuta* bioaccumulation bioassays conducted at five stations in 1998. The results from the 1998 bioaccumulation test reflect the concentrations from clams exposed to sediment in a single replicate from each station.

Table 4-10 summarizes the *M. nasuta* tissue results in dry weight units for individual chemicals and for the total concentrations within a suite of chemicals. Chemical analyses were performed for trace metals, pesticides, butyl tins, PAHs, and PCBs. The summary table presents the total number of samples, the total number of detected concentrations, the minimum and maximum detected concentrations, the standard deviation of the concentration results, and the location of the maximum concentration. For a chemical with no detected results, one-half of the detection limit is listed and is enclosed with brackets. The standard deviation was calculated for the combined set of results, including detected concentrations and one-half the detection limits for non-detects.

All eleven of the measured inorganic constituents were detected in Breakwater Beach *M. nasuta* tissues. Qualitative comparisons were performed between chemical concentrations in *M. nasuta* tissue from both Breakwater Beach and from the reference locations. Using the summary statistics provided in Table 4-10, the maximum observed *M. nasuta* tissue concentrations were compared to the reference tissue threshold values, representing the 90th percentile of the concentrations observed in *M. nasuta* tissue from reference locations (Battelle et al., 2005a). Concentrations of arsenic, chromium, copper, nickel, and silver in *M. nasuta* exposed to Breakwater Beach sediments exceeded reference tissue threshold values. Concentrations of all other inorganic constituents were less than reference tissue threshold values.

Alpha-chlordane, dieldrin, *gamma*-BHC, and DDx were the only pesticides detected in Breakwater Beach *M. nasuta*, and maximum concentrations of each exceeded reference tissue threshold values, as did the maximum detected tissue concentration of Total PCBs. PAHs were detected in all five tissue samples, with fluorene and naphthalene being the only two PAH compounds that did not exceed reference tissue threshold values.

4.5 Exposure Point Concentrations

4.5.1 Sediment Exposure Point Concentrations

EPCs were calculated separately for surface sediments and subsurface sediments. For surface sediments, EPCs were calculated in two ways: (1) using only the most recent 2005 data, and (2) pooling all available data to provide the largest possible data set. To represent all years of data, Breakwater Beach EPCs included surface samples from 1996, 1998, and 2002; and for Western Bayside, surface samples from 1993/94, 1996, and 2005 were used. Since Breakwater Beach did not have 2005 samples, only the all-year calculations were performed. Analytes that were never detected in sediment or tissue in any year were eliminated from further consideration.

The number of samples and the analytes examined differed between 1993/94 and 2005, so the sample sizes that went into the calculations varied between analytes. Due to the lack of regularly spaced subsurface samples in Breakwater Beach and Western Bayside prior to 2005, EPCs for the subsurface (5-25 cm) layer were based only on the 2005 data at Western Bayside.

A summary of the sediment EPCs calculated for each site are presented in Tables 4-11 and 4-12. These tables list the estimates of mean and 95% UCL for the three data set alternatives; All Years, 2005 Surface, and 2005 Subsurface. They also include the type of distribution based on the Shapiro-Wilk test (normal, log-normal, or nonparametric), and the distribution-dependent estimates of the mean and UCL using one-half DLs for non-detects (except for Total PCBs, which was computed as the sum of the detected observations). The 95% UCL was used unless it was larger than the maximum detected concentrations, in which case the maximum detected concentration was used. UCLs of this type are listed inside symbols "<>". UCLs computed using all non-detected values are listed inside symbols "><". It is anticipated that such an approach would provide conservative estimates, so that risks are less likely to be underestimated. EPC calculations for Total PCBs were calculated on sums of the detected Aroclors and congeners. As previously discussed, this procedure avoided grossly overestimating Total PCBs that would result by summing one-half DLs of historical Aroclor data. Uncertainties associated with how non-detects were handled in calculating totals are discussed in Section 7 of this report.

4.5.2 *M. nasuta* Tissue Exposure Point Concentrations

Two approaches were used to calculate EPCs for *M. nasuta* tissue, which are presented in Tables 4-13 through 4-16. For analytes that were detected in historical *M. nasuta* tissue data from Breakwater Beach and Western Bayside, the tissue data were used to calculate tissue EPCs. For analytes detected in sediment, but not detected in historical site-specific tissue, EPCs were modeled by multiplying the sediment EPCs by a bioaccumulation factor (BAF) developed as described in Section 4.5.2.3 to ensure that the potential for bioaccumulation was not overlooked because of elevated tissue detection limits. For a few analytes at both sites, EPCs were calculated based on one-half the DLs for non-detected constituents for which there is no BAF available; this can be used as an initial screen. The procedures for calculating EPCs from tissue results are described in Section 4.5.2.1. The procedures for calculating modeled tissue EPCs are described in Section 4.5.2.2, and the procedures for calculating the BAFs used in modeling tissue concentrations are described in Section 4.5.2.3.

4.5.2.1 Measured **M. nasuta** *Tissue Exposure Point Concentrations*

A limited number of *M. nasuta* tissue values were available from historical laboratory bioaccumulation studies performed on Alameda sediment. In Breakwater Beach, results from five locations sampled in 1998 were available, whereas for Western Bayside the results from seven locations sampled in 1993/94 were used. Each result from the 1993/94 Western Bayside samples was an average of five replicate exposures, except at one location which had only four replicates for PAHs. The 1998 Breakwater Beach data were single exposures. In both cases standard 28-day exposures protocols were used.

Tissue EPCs for Breakwater Beach and Western Bayside were calculated in both dry weight and wet weight units. These EPCs are presented in Tables 4-13 through 4-16. For Western Bayside, with the exception of 4,4' DDE, no organic analytes were measured above the DLs. As previously mentioned, for many of these organics in Western Bayside, a modeled EPC was generated as discussed in Section 4.5.2.2. In addition, modeled EPCs were calculated in Western Bayside for antimony, cadmium, chromium, selenium, and silver because these constituents were not detected in *M. nasuta* tissue. For Breakwater Beach, three pesticides (endrin, heptachlor and heptachlor epoxide) were not detected in any tissue samples; and no BAF is available to model EPCs from sediment. The same was true in Western Bayside for seven pesticides (*alpha*-BHC, endosulfan I, endosulfan II, endosulfan sulfide, endrin, endrin aldehyde and *gamma*-BHC), for 2-methylnaphthalene, and for tributyl tin. For these constituents, EPCs were calculated using one-half DLs for the non-detected constituents. It is reasonable to assume, for screening purposes, that the EPCs based on one-half DLs are conservative estimates of tissue concentrations. If these tissue concentrations do not drive an unacceptable risk to upper trophic levels, no further assessment would be warranted.

4.5.2.2 Modeled **M. nasuta** *Tissue Exposure Point Concentrations*

The BAF estimate of biotic uptake from sediments to tissues can be used as a direct multiplier of sediment results to provide an estimate of expected tissue concentrations for a given chemical constituent. Tables 4-13 and 4-15 present BAF estimates based on dry weight; *M nasuta* tissue concentrations were used to model concentrations in invertebrate tissue as an alternative estimate in ecological risk assessment at Western Bayside (Table 4-13) and Breakwater Beach (Table 4-15). BAF estimates based on wet weight *M. nasuta* tissue concentrations were used to model concentrations in invertebrates for use in the human health risk assessment at Western Bayside (Table 4-14) and Breakwater Beach (Table 4-16). The tables present the modeled estimates of tissue EPCs (95% UCLs) for the constituents, side-by-side with the tissue data estimates, for use in risk calculations. The modeled *M. nasuta* tissue estimates for Breakwater Beach are presented for surface sediments for all years. The estimates for Western Bayside are presented in side-by-side columns sets for three sediment data set alternatives: surface sediments and subsurface sediments (5-25 cm depth) from 2005 data and surface sediments from all years.

4.5.2.3 **M. nasuta** *Bioaccumulation Factors*

Sediment samples collected at Alameda Point areas in 1993 (IR Site 20, Seaplane Lagoon [IR Site 17], Western Bayside) and in 1998 (Breakwater Beach, IR Site 24, Seaplane Lagoon, and Navy Reference locations) were analyzed for sediment chemistry and used in bioassay tests as exposure medium for *M. nasuta*. The data were reviewed for suitability in calculating BAFs. The *M. nasuta* tissues from 1993 exposed to Alameda Point sediments produced no detected concentrations of organic constituents due to high DLs. The achievement of better DLs in *M. nasuta* tissues in 1998 made the data from that year more suitable for use in BAF calculations. The sediment concentrations measured in 1998 were representative of the range of concentrations observed at Alameda Point areas over time, and the *M. nasuta* tissue results were better quality, hence only the 1998 data were used to calculate BAFs to represent biotic uptake in *M. nasuta* for all areas in Alameda Point. Appendix C presents a detailed discussion of the calculation of BAFs, including a complete set of bivariate plots of tissue versus sediment for collocated sediment and tissue results for all chemicals for which BAFs were derived.

4.5.3 Fish Tissue Exposure Point Concentrations

Because no forage fish were collected at either Breakwater Beach or Western Bayside, forage fish BAF estimates based on studies conducted in Seaplane Lagoon were used together with the site-specific sediment EPC results to estimate the maximum forage fish concentrations and EPCs at these sites. The procedures for calculating modeled tissue EPCs for forage fish are described in Section 4.5.3.1, and the approach to calculating BAFs for forage fish is described in Section 4.5.3.2.

4.5.3.1 Modeled Forage Fish Tissue Exposure Point Concentrations

Tables 4-17 through 4-20 present forage fish EPCs modeled from BAF estimates based on both dry weight and wet weight tissue concentrations for use in the ecological risk assessments (Section 6) and human health risk assessments (Section 5), respectively. EPCs for Western Bayside forage fish are presented in Tables 4-17 and 4-18, and those for Breakwater Beach are presented in Tables 4-19 and 4-20. The tables include both a modeled estimate of maximum fish tissue concentrations for use in screening and a modeled estimate of the tissue EPC (95% UCL) for use in risk calculations as described in Sections 5.0 and 6.0. For Western Bayside, the estimates are presented in side-by-side columns for three sediment data set alternatives, including surface sediments and subsurface sediments (5-25 cm depth) from 2005 data and surface sediments from all years. For Breakwater Beach, the estimates are presented for surface sediments from all years combined.

4.5.3.2 Forage Fish Bioaccumulation Factors

Forage fish were collected in 2001 from Seaplane Lagoon (IR Site 17) and from two San Francisco Bay reference areas (BF and PC) in support of the Seaplane Lagoon RI (Battelle et al., 2004b). No forage fish have been collected from other Alameda Point offshore areas. Samples were composite forage fish tissue samples collected using a series of trawls. The Seaplane Lagoon sediment exposure areas were defined by circumscribing a polygon around the trawl lines used during fish collection (Appendix C). During the Seaplane Lagoon RI, the sediments falling inside the trawl polygons collected during 1993/94, 1996, and 1998 were used to represent the forage fish exposure concentrations within the polygon (Battelle et al, 2004b). In the BAF calculations for this report, the sediment results from the 2002 *Sediment Dynamics Study at Seaplane Lagoon* (Battelle et al., 2004b) falling inside the polygons also were included. BAF calculations for the Seaplane Lagoon RI were intended to represent biotic uptake specific to Seaplane Lagoon and were based on fish and sediments from Seaplane Lagoon only. The sediment concentrations in Breakwater Beach and Western Bayside generally fall between those observed in Seaplane Lagoon and the reference areas. Therefore, to model biotic uptake across the expected range of sediment concentrations, the BAFs for this investigation are calculated using the results from both Seaplane Lagoon and the reference areas. See Appendix C for a detailed discussion of the derivation of forage fish BAFs.

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5.0 HUMAN HEALTH RISK EVALUATION

This section presents the results of the human health risk assessment conducted in support of the SI Report for Western Bayside and Breakwater Beach at Alameda Point. This assessment evaluated historical sediment and tissue data collected in the offshore areas of Alameda Point and incorporated additional sediment data recently collected by Battelle in 2005 (Battelle et al., 2005b). A full discussion of the site history, description of previous investigations, an evaluation of the newly collected sediment data, and a comprehensive discussion of the distribution of contaminants at Western Bayside and Breakwater Beach is provided in previous sections.

The human health risk assessment was conducted following methodology in U.S. EPA and Department of Toxic Substances Control guidance documents (U.S. EPA, 1989a and 2004a; Department of Toxic Substances Control [DTSC], 2002) as outlined in the Offshore Sediment Study Work Plan (Battelle et al., 2005b). Standard regulatory dose relationships were incorporated, and cumulative risks as well as comparisons to reference conditions were evaluated. The risk assessment was performed in four essential steps that constitute the basic framework for all risk assessments:

- Data Review and Evaluation: A review of available data to characterize the site and to define the nature and extent of environmental contamination identified at the site.

- Exposure Assessment: An assessment of the magnitude, frequency, duration, and routes of theoretical exposure to site-related waste.

- Toxicity Assessment: A review of available information to identify the nature and degree of toxicity and to characterize the dose-response relationship for each chemical.

- Risk Characterization: A synthesis of exposure and toxicity information to yield quantitative estimates of cancer and non-cancer risks to defined receptor populations.

Appendix D provides summary tables, formatted according to U.S. EPA guidance (RAGS, Part D) for the risk assessment calculations.

5.1 Data Evaluation and Identification of Chemicals of Concern

The first step of the human health risk assessment process is an evaluation of the available data to: (1) characterize the site, (2) develop a data set for use in the risk assessment, and (3) identify COPCs. For the human health risk assessment, the All Years sediment data set described in Section 4.1.1 and the 28-day *M. nasuta* bioaccumulation data were evaluated to identify COPCs. Analytes that were detected at least once in sediment in any year (1993/94, 1996, and 2005 for Western Bayside; 1996, 1998, and 2002 for Breakwater Beach) or in *M. nasuta* tissue (1993 at Western Bayside or 1998 for Breakwater Beach) were selected as COPCs; only those analytes that were never detected in both media were eliminated from consideration. As a result of this COPC screen, endosulfan I, endosulfan sulfate, and endrin were eliminated as COPCs for Western Bayside, and *alpha*-BHC, endosulfan I, endosulfan sulfate, endrin, endrin aldehyde, and heptachlor were eliminated as COPCs at Breakwater Beach. The non-detect sediment results for these contaminants were reviewed to verify that the associated detection limit was sufficiently sensitive, in comparison to U.S. EPA preliminary remediation goals (PRG) (2004a), to ascertain whether or not these contaminants were present at concentrations capable of eliciting an adverse human health effect. The maximum sediment detection limits reported for these pesticides were all well below U.S. EPA's industrial PRGs (Tables 4-1 and 4-5).

As described in Section 4.5.2, two approaches were used to calculate EPCs for *M. nasuta* tissue. Analytes that were detected in historical *M. nasuta* tissue data were used to calculate tissue EPCs. However, many of the organic compounds were non-detect, and detection limits were elevated. Therefore, for analytes detected in sediment, but not detected in historical site-specific tissue, EPCs were modeled by multiplying the sediment EPCs by a BAF. BAFS were also used to estimate fish tissue concentrations (see Section 4.5.3). A list of the COPCs evaluated is provided in Table 5-1.

5.2 Exposure Assessment

The exposure assessment includes an assessment of the magnitude, frequency, duration, and routes of theoretical human exposure to site-related COPCs. In this step, both current and hypothetical future site uses are considered, and complete exposure pathways to actual or probable human receptors that would come in contact with site-related COPCs are identified and evaluated.

5.2.1 Exposure Pathways and Receptors

In general, an exposure pathway describes the course a chemical takes from the source to the exposed receptor. An exposure pathway analysis links the source, location, and type of environmental release with population location and activity patterns to determine the primary pathways of exposure. If potentially complete and significant exposure pathways exist between contaminants and receptors, an assessment of potential effects and exposure is conducted. Only those potentially complete exposure pathways likely to contribute significantly to the total exposure have been quantitatively evaluated. All other potentially complete exposure pathways which result in minor exposures or for which there are no exposure models or insufficient toxicity data were not quantitatively evaluated in this assessment.

An exposure pathway is considered complete if all four of the following elements are present:

- A source and mechanism of chemical release;
- A retention or transport medium;
- A point of contact between the human receptor and the medium; and
- A route of exposure for the potential human receptor at the contact point.

A complete exposure pathway from the source of chemicals in the environment (i.e., from sediment) to human receptors must exist in order for chemical intake to occur. If all exposure pathways are incomplete for human receptors, no chemical intake occurs and, hence, no human health effects are associated with site-related COPCs. A summary of the exposure pathways for each site is presented below. In accordance with U.S. EPA guidance (U.S. EPA, 1989a), both current and anticipated future conditions are considered.

Western Bayside is a region of open water adjacent to the northern and western edges of Alameda Point. The majority of this area is subtidal with a maximum water depth of about 22 ft. Riprap lines the shoreline of Western Bayside, resulting in limited intertidal areas. At low tide, small areas of beach are exposed. The majority of the land adjacent to Western Bayside is associated with the 1943-1956 Disposal Area (IR Site 1) and the West Beach Landfill (IR Site 2), active from 1957 to 1978 (NEESA, 1983). Any human exposures occurring along the shoreline of Western Bayside were assessed as part of the IR Site 1 and IR Site 2 studies (DON, 2006; Battelle and Blasland, Bouck, and Lee, Inc. [BBL], 2006). The proposed future onshore land use for much of this area is a wildlife refuge, limiting the possibility that this area will be developed for human use. In addition, shellfish have been observed along the shoreline areas of Western Bayside and would be accessible to individuals wishing to harvest them. Currently no actual or anecdotal evidence indicates that individuals are actually harvesting and consuming shellfish from this area; however, due to their accessibility, indirect exposures associated with the consumption of shellfish located along the riprap and beach were conservatively considered in this evaluation (Figure 5-1). In addition, it was assumed that direct exposures to sediments, such as through dermal contact or incidental ingestion of sediment, might occur during recreational activities, such as walking along the beach or wading along the shoreline (Figure 5-1). However, direct exposure to sediment by recreation users is considered minimal. It is assumed that any risks associated with recreational exposure to sediment would be accounted for by evaluating exposures from direct contact with sediments during clamming activities.

The Breakwater Beach area consists of the beach located east of the turning basin and an offshore shallow area extending from the southern shoreline of Alameda Point to a long breakwater southeast of the turning basin (Battelle et al., 2000). Currently, the southern shoreline of Alameda Point also includes a recreational picnic and beach area (PRC, 1996b). Due to the presence of this recreational area and beach, it was assumed that direct exposures to sediments (i.e., dermal contact and incidental ingestion) could occur from individuals participating in recreational activities, such as walking along the beach or wading in the shallow intertidal area (Figure 5-2). In addition, shellfish have been observed along the shoreline areas of Breakwater Beach and could be accessible to individuals wishing to harvest them. As for Western Bayside, no actual or anecdotal evidence indicates that individuals are actually harvesting and consuming shellfish from Breakwater Beach; however, due to their accessibility, indirect exposures associated with the consumption of shellfish located along the beach were conservatively considered in this evaluation. In addition, it was assumed that direct exposures to sediments occurring during recreational activities is minimal, and any risks associated with recreational exposure to sediment would be accounted for by evaluating exposures from direct contact with sediments during clamming activities.

Indirect exposure via fishing was considered a complete exposure pathway at Western Bayside and Breakwater Beach; however, risk associated with ingestion of local catch is a bay-wide issue that has resulted in health advisories on all major waterways in the San Francisco Bay Area (SFEI, 1999). Most of the sport fish targeted by recreational anglers have extensive foraging ranges; therefore, it is difficult to distinguish the risk attributable to the site from risk associated with other point sources along the Inner Harbor or bay-wide conditions. Thus, risks associated with ingestion of fish were not considered a primary pathway. As a conservative estimate of potential risks, forage fish tissue concentrations modeled for the ecological risk assessment were evaluated.

Direct contact with surface water was identified as a complete pathway, but water is not considered a primary exposure medium due to the rapid dilution of chemicals resulting from tidal action and San Francisco Bay currents (see Section 2.3.1.3 for more detail). In addition, activities associated with shellfish collection would occur at low tide, further limiting contact with surface water. The chemicals of concern are persistent, hydrophobic chemicals primarily associated with the sediments. As a result, water concentrations and, therefore, exposures of these compounds are negligible compared to sediments. Consequently, exposures via surface water were not proposed for quantitative evaluation. It is assumed that the future use of Western Bayside and Breakwater Beach will be similar to current conditions and, therefore, the receptors and exposure scenarios outlined in Figures 5-1 and 5-2 should apply to both current and future conditions.

Risks to children associated with consumption of shellfish were not calculated because as observed by SFEI (2002), children under the age of 6 years are unlikely to consume shellfish. Only 13% of the SFEI study (2002) participants reported that children under the age of six eat locally caught fish and only 2% reported that pregnant or breastfeeding woman eat a portion of their catch. Given that only 5% of the overall seafood consumption among San Francisco anglers is comprised of shellfish (Wong, 1997), it can be assumed that less than 1% (i.e., 0.65%) of Bay-area children under the age of six are consuming shellfish from San Francisco Bay. Overall, there is a low probability of child exposure (with respect to intake amounts and frequency of exposure); as such, this pathway is considered a potentially complete but insignificant exposure route. However, risks to children associated with direct contact to sediment during collection of shellfish and with the consumption of fish were estimated to ensure that evaluation of the adult receptor was adequately protective.

5.2.2 Exposure Point Concentrations

Estimates of chemical concentrations at points of potential human exposure are necessary for evaluating chemical intakes by potentially-exposed individuals. For the human health risk assessment, EPCs were developed for sediment and shellfish. In addition, EPCs for forage fish calculated for use in the ecological risk assessment were considered as a conservative estimate of potential risks associated with consuming sport fish.

As discussed in Section 4, exposure point concentrations for sediment were developed based on three data sets: All Years, 2005 Surface, and 2005 Subsurface. For the human health assessment, sediment EPCs (in dry weight) developed for the All Years and the 2005 Surface data sets were considered. The 95% UCL or the maximum concentration, whichever was less, was used as the EPC for all exposure scenarios. For *M. nasuta* tissue, wet weight EPCs were generated using historical tissue data for all constituents that were detected in tissue. For constituents that were detected in sediment in any year, but not in tissue, EPCs were calculated by multiplying a bioaccumulation factor times the sediment EPC for each area. Wet weight concentrations also were modeled for forage fish, as described in Section 4.5.3.

Exposure point concentrations also were developed to reflect reference conditions, for the purpose of comparison. As described in Section 4.1.2, reference concentrations of San Francisco Bay sediment were based on reference station sediment data collected from five 1998 reference sites (Alameda Point field sampling effort, TtEMI, 1998b) and from five 2001 reference sites used in the Hunters Point Shipyards Parcel F validation study (Battelle et al., 2005a). To characterize exposure to reference concentrations of shellfish, *M. nasuta* exposed in the laboratory for 28 days to sediment from 10 reference station locations in San Francisco Bay was used. Five of the reference bioaccumulation assays were conducted in 1998 as part of the Seaplane Lagoon field sampling effort (TtEMI, 1998b), and the remaining five stations were collected as part of the Hunters Point Shipyards validation study (Battelle et al., 2005a). While reference forage fish tissue were collected at two reference locations in support of the Seaplane Lagoon RI (Battelle et al., 2004b), reference fish tissue concentrations used in the human health risk assessment were modeled to be consistent with the site estimates. Forage fish tissue concentrations were modeled similarly to site data by multiplying the fish BAF by the reference sediment EPC for each constituent.

5.2.3 Exposure Parameters

Intake is estimated by combining exposure point concentrations with the variables that describe exposure:

- Rate of contact with the medium containing the constituent;
- Frequency of contact;
- Duration of contact; and
- Body weight of the exposure individual

Intake of individual chemicals as a result of exposure was estimated following U.S. EPA (1989a) guidance and using U.S. EPA standard default parameters (U.S. EPA, 1991) and literature-derived values regarding conservative exposure conditions. An intake factor is the concentration of a chemical in a quantity of a medium (e.g., seafood tissue) taken into the body through an exposure route (e.g., ingestion) and available for absorption. It is expressed in units of milligram (mg) of chemical per kilogram (kg) body weight per day (mg/kg-day). For the purpose of this assessment, parameters were selected to model exposures under both a Reasonable Maximum Exposure (RME) and a Central Tendency Exposure (CTE) scenario. The

RME relies on conservative exposure factors to estimate the reasonable maximum exposures anticipated for the site, whereas the CTE describes a more typical or average exposure to an individual.

Table 5-2 summarizes the specific exposure factors used to derive the dose calculated for each exposure scenario using Equations 5-1 through 5-4 described below in Section 5.2.5. A summary of each of the key exposure parameters and the rationale for their selection is provided below.

Fish Ingestion Rate (IR_{tissue}): The SFEI recently completed an extensive survey of consumption of fish from San Francisco Bay (SFEI, 2002). Based on the data provided in this report, the median fish consumption rate for all participants was 16 g/day (0.016 kg/day) and the 95th percentile was 108 g/day (0.108 kg/day). Based on data presented in Table 10-61 of the U.S. EPA Exposure Factors Handbook (1997a), the mean total fish consumption rate for children 1 to 5 years of age who reside in households with recreational fish consumption is 11 g/day (RME). The mean consumption rate of recreational fish by children from the same study is 5.6 g/day (CTE).

Shellfish Ingestion Rate (IR_{tissue}): Data are not available to describe the consumption rate of shellfish in the San Francisco Bay area. However, it has been reported that shellfish typically comprise less than five percent of total seafood consumption among San Francisco anglers (Wong, 1997). Therefore, in the absence of information specific to shellfish, it was conservatively assumed that the shellfish consumption rate was 5 percent of the fish consumption rate reported by SFEI (2002). This equates to an assumption of 0.8 g/day (0.0008 kg/day) for the CTE and 5.4 g/day (0.0054 kg/day) for the RME.

Risks to children associated with consumption of shellfish were not calculated because as observed by SFEI (2002), children under the age of 6 years are unlikely to consume shellfish. Only 13% of the SFEI study (2002) participants reported that children under the age of six eat locally caught fish, and only 2% reported that pregnant or breastfeeding women eat a portion of their catch. Given that only 5% of the overall seafood consumption among San Francisco anglers is comprised of shellfish (Wong, 1997), it can be assumed that less than 1% (i.e., 0.65%) of Bay-area children under the age of six are consuming shellfish from San Francisco Bay. However, risks to children associated with direct contact to sediment during collection of shellfish were estimated to ensure that evaluation of the adult receptor was adequately protective.

Sediment Ingestion (IR_{sed}): To estimate incidental ingestion of sediment as a result of clamming activities, the daily soil ingestion rates for adults (100 mg/day) and children (200 mg/day) from U.S. EPA Preliminary Remediation Goals (PRG) Table (U.S. EPA, 2004a) were used for the RME scenario. One half the daily ingestion rates for adults (50 mg/day) and children (100 mg/day) were assumed for the CTE.

Fraction Ingested (FI): To account for the fact that the ingestion rates and dermal contact rates applied include exposures to sediments from other sources, the FI was included to distinguish that portion assumed to be specific to exposures at Western Bayside and Breakwater Beach. The FI accounts for the potential exposures of contaminants from other anthropogenic and natural sources which are not associated with these sites. For the CTE, it was assumed that one-half of the total exposure to chemicals was from the site based on professional judgment, whereas for the RME, it was conservatively assumed that 100% of the exposures that occurred were associated with Western Bayside and Breakwater Beach.

***Gamma* Shielding Factor (GS):** The *gamma* shielding factor of 0.40 was recommended by recent U.S. EPA guidance (e.g., *Soil Screening Guidance for Radionuclides: Technical Background Document* [U.S. EPA, 2000a and 2000b]), which indicated that EPA has further reviewed and evaluated reports addressing *gamma* ray shielding factors and has adopted a default *gamma* shielding factor of 0.4 based solely on the contribution of terrestrial radiation. The external exposure occurs when the individual is not in contact with the impacted medium, but is in close proximity to receive the effects of the *gamma* radiation.

However, any solid barriers between the radiation and the individual will minimize the potential adverse effects of the radiation.

Exposure Frequency (EF): The shellfish ingestion rates are annualized and presented on a daily basis. Therefore, the exposure frequency for the shellfish ingestion pathway is assumed to be 365 days per year (U.S. EPA, 1989a). It was assumed that individuals harvesting shellfish from the site would engage in this activity one day per week for six months of the year (RME) or one day every two weeks for six months of the year (CTE). Therefore, for the purpose of calculating risks associated with direct sediment exposures (i.e., dermal contact and incidental ingestion), the exposure frequency was assumed to be 13 days per year for the CTE and 26 days per year for the RME.

Exposure Time Percentage (ET): For external exposure to radionuclides, it was assumed that individuals would be exposed for 26 days of 365 days per year and 8 hours of 24 hours per day for the RME scenario and 13 days per year for the CTE. This equated to exposure time percentage of 2.4% for RME and 1.2% for the CTE. Although the external exposure considers emission of *gamma* radiation over distance, it is unlikely that residents would have significant long-term exposure given that the nearest residential homes are more than 0.5 miles from the study sites.

Exposure Duration (ED): An assumed exposure duration of 9 years was used for typical individuals. For the RME, an exposure duration of 30 years was assumed. These assumptions were based on recommendations by U.S. EPA (1989a) and represent median and 90th percentile estimates of residential tenure at a single location, respectively. For the child scenario, an exposure duration of 6 years was used (U.S. EPA, 1989a).

Body Weight (BW): Based on information presented by U.S. EPA (2004a), a body weight of 70 kg for adult and 15 kg for child was assumed for both the typical exposure and the RME.

Skin Surface Area (SA): To evaluate dermal exposures, it was assumed that individuals would wear a short-sleeve shirt and shorts, exposing hands, forearms, lower legs, and feet (i.e., 5,700 cm^2/day for adult and 2,800 cm^2/day for child) (U.S. EPA, 2004a).

Adherence Factor (AF): An adherence factor of 0.07 mg/cm^2 for adult and 0.20 mg/cm^2 for child was assumed for both the CTE and RME (U.S. EPA, 2004a).

Dermal Absorption Factor (DAF): Dermal absorption factors were based on data reported by DTSC's Preliminary Endangerment Assessment (PEA) Manual for Inorganic and Organic Compounds (DTSC, 1994). For those COPCs with no available information, a DAF of 0.01 was assumed for metals, and 0.1 for organics.

Averaging Time (AT): Averaging time is equal to the lifetime of the individual (70 years × 365 days per year) when evaluating risks to carcinogens. For noncarcinogens, the averaging time is equal to the exposure duration (U.S. EPA, 2004a).

5.2.4 Exposure to Lead

Exposure to lead in environmental media cannot be evaluated by calculating a chemical intake or dermal dose. Lead presents an exception to the paradigm that noncarcinogenic effects of chemicals occur only at exposure levels exceeding some physiological threshold at which natural defense mechanisms are overwhelmed. Some of the effects of lead exposures, particularly changes in the levels of certain blood enzymes, appear to occur at blood lead levels so low as to be essentially without a threshold. Studies have shown that the absorption of lead through food ingestion by infants up to six months old is known to be very high, and is much lower in adults. Less information is available regarding the potential absorption of lead through ingestion of affected food for older infants, toddlers, and children. As a result, the

U.S. EPA has deemed it inappropriate to estimate toxicity-based dose levels. Instead, potential risk associated with lead exposure is assessed by means of blood lead levels.

The U.S. EPA (1994) and DTSC (2002) have established a target blood lead level for children less than eight years of age, who are particularly susceptible to lead toxicity, of no more than 10 μg/dL (micrograms of lead per deciliter of blood) for both short- and long-term exposures. However, the models proposed by these agencies are designed to estimate blood-lead level in children based on lead contamination of soil, drinking water, homegrown vegetables, respirable dust, and air. Because these models are not designed to predict lead levels associated with seafood uptake from sediment, estimates of risk associated with lead ingestion were not quantified. The maximum concentration for lead in surface sediment was 30.8 mg/kg at Western Bayside and 48.9 mg/kg at Breakwater Beach sampling locations. For comparison purposes, U.S. EPA Region 9 recommends a PRG of 400 mg/kg of lead in soil based on acceptable blood-lead levels in children less than six years of age. In the State of California, a Cal-Modified lead PRG (150 mg/kg), which has been calculated using California EPA toxicity values and U.S. EPA Region 9 exposure methodology, should be used as a screening level because it is more stringent than the Federal value (U.S. EPA, 2004a). Assuming a bioaccumulation factor of 1, the lead concentrations at Western Bayside and Breakwater Beach are 3 to 12 times lower than concentrations determined to be health-protective for children by U.S. EPA and the State of California. Consequently, further modeling of lead uptake by children was not warranted.

5.2.5 Dose Estimates

Using the EPCs for each media and the parameters described above, doses associated with each scenario were calculated using the following standard risk equations:

Sediment exposures:

$$\text{Dose (mg/kg/day)} = \frac{(C_{sed} \times IR_{sed} \times FI \times EF \times ED) + (C_{sed} \times SA \times AF \times DAF \times FI \times EF \times ED)}{BW \times AT} \qquad (5\text{-}1)$$

Consumption of fish and shellfish:

$$\text{Dose (mg/kg/day)} = \frac{C_{tissue} \times IR_{tissue} \times EF \times ED \times FI}{BW \times AT} \qquad (5\text{-}2)$$

External *gamma* radiation exposures:

$$\text{Dose (pCi/g per year)} = C_{sed} \times ED \times GS \times ET \qquad (5\text{-}3)$$

Internal *gamma* radiation exposures through sediment ingestion:

$$\text{Dose (pCi)} = C_{sed} \times IR_{sed} \times FI \times EF \times ED \qquad (5\text{-}4)$$

where: Dose = rate of chemical or radionuclide intake across the body
C = chemical concentration in contaminated media or EPC (mg/kg)
IR = contact or ingestion rate (mg/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
GS = *gamma* shielding factor (unitless)

ET	=	exposure time percentage (unitless)
FI	=	fraction ingestion (unitless)
SA	=	skin surface area exposed (cm^2/day)
AF	=	skin adherence factor (mg/cm^2)
DAF	=	dermal absorption factor (unitless)
BW	=	body weight (kg)
AT	=	averaging time (days).

Calculating doses based on carcinogenic effects for a combined 30-year recreational receptor requires mathematical adjustment of exposure parameters so that both childhood and adult exposures are considered. Generally, U.S. EPA recommends that, for the RME scenario, a standard exposure duration of 30 years is used to evaluate exposures to residents (i.e., children and adult). Because children, as well as adults, may have access to site-related contamination through direct contact, this evaluation used age-adjusted intake rates for the estimates of cancer risk for the RME scenario. This approach takes into account the difference in daily intake rate, body weight, and exposure durations for children from 1 to 6 years old and adults from 7 to 31 years old. The lower intake rate and body weight produces a more conservative risk estimate than if adult-only exposures were assumed. The derivation of the age-adjusted intake rates for the RME is provided in Appendix D. Age-adjusted rates were not used for the shellfish ingestion scenario because it was assumed that there was no childhood exposure.

5.3 Toxicity Assessment

The toxicity assessment determines the relationship between the magnitude of exposure to a COPC and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of risk assessment, COPCs are classified into two broad categories: noncarcinogens and carcinogens.

Carcinogens are agents that induce cancer. Numerical estimates of cancer potency are presented as cancer slope factors (CSFs). The CSF defines the cancer risk due to constant lifetime exposure (24 hours a day for 365 days per year) to one unit of carcinogen (in units of risk per mg/kg-day). CSFs are derived by calculating the 95% UCL on the slope of the linearized portion of the dose-response curve obtained from a multistage (nonlinear) cancer model. Use of the 95% UCL of the slope means that there is only a 5% chance that the probability of a response could be greater than the estimated value for the experimental data used. This is a conservative approach and is likely to overestimate the actual risk given that the actual risk is expected to be between zero and the calculated value. Carcinogenic slope factors assume no threshold for effects such that exposure to any level of concentration is likely to produce a carcinogenic effect.

U.S. EPA's guidance for evaluating the potential carcinogenicity of chemicals have been updated over the years to reflect increased understanding of the processes of cancer development and the modes of actions of disease at the cellular level. U.S. EPA issued the first set of final risk assessment guidelines in 1986, including *Guidelines for Carcinogen Risk Assessment* (51 FR 33992, September 24, 1986). These guidelines detailed a Weight of Evidence (WOE) approach for classifying the carcinogenic potential of chemicals. The five general classifications used under the U.S. EPA 1986 guidance are listed below:

> **Group A - Human Carcinogen.** Sufficient evidence from human epidemiological studies exists to support a causal association between exposure and cancer.
>
> **Group B - Probable Human Carcinogen.** This group consists of (1) compounds for which limited evidence of carcinogenicity in humans exists based on epidemiological studies (B1 carcinogens), and (2) compounds for which sufficient evidence of carcinogenicity in animals

exists; however, adequate evidence of carcinogenicity in humans is not available (B2 carcinogens).

Group C - Possible Human Carcinogen. This includes those compounds for which there is limited evidence of carcinogenicity in animals.

Group D - Not Classifiable as a Human Carcinogen. This includes those compounds for which there is inadequate animal evidence of carcinogenicity.

Group E - Evidence of Noncarcinogenicity in Humans. This includes compounds for which there is no evidence for carcinogenicity in at least two adequate animal tests in difference species, or in both adequate epidemiological and animal studies.

In 1996, U.S. EPA released *Proposed Guidelines for Carcinogen Risk Assessment* (Federal Register 61 [79]: 17960-18011, April 23, 1996), which used descriptive phrases rather than the alphanumeric classification to classify carcinogenic potential:

"Known/Likely". This category of descriptors is appropriate when the available tumor effects and other key data are adequate to convincingly demonstrate carcinogenic potential for humans.

"Cannot Be Determined". This category of descriptors is appropriate when available tumor effects or other key data are suggestive or conflicting or limited in quantity and, thus, are not adequate to convincingly demonstrate carcinogenic potential for humans. In general, further agent specific and generic research and testing are needed to be able to describe human carcinogenic potential.

"Not Likely". This is the appropriate descriptor when experimental evidence is satisfactory for deciding that there is no basis for human hazard concern, as follows (in the absence of human data suggesting a potential for cancer effects):

The proposed guidelines underwent several peer reviews and revisions, including interim final guidelines released in 1999, leading to the publication of the final revision to the *Guidelines for Carcinogen Risk Assessment* in March 2005 (Federal Register 70 [66]: 17765-17817, April 7, 2005). Under these guidelines, a weight of evidence narrative summarizes the results of the hazard assessment and provides a conclusion with regard to human carcinogenic potential, which is in contrast to the step-wise approach in the 1986 cancer guidelines. The narrative summarizes the full range of available evidence and describes any conditions associated with conclusions about an agent's hazard potential. To provide additional clarity and consistency in weight-of-evidence narratives, standard descriptors are utilized as part of the hazard assessment narrative to summarize the biological evidence. The five descriptors currently used by the U.S. EPA are listed below:

Carcinogenic To Humans: This descriptor is appropriate when there is convincing epidemiologic evidence demonstrating causality between human exposure and cancer, or exceptionally when there is strong epidemiological evidence, extensive animal evidence, knowledge of the mode of action, and information that the mode of action is anticipated to occur in humans and progress to tumors.

Likely to be Carcinogenic to Humans: This descriptor is appropriate when the available tumor effects and other key data are adequate to demonstrate carcinogenic potential to humans, but does not reach the weight-of-evidence for the descriptor "carcinogenic to humans".

Suggestive Evidence of Carcinogenic Potential: This descriptor is appropriate when the evidence from human or animal data is suggestive of carcinogenicity, which raises a concern for carcinogenic effects but is judged not sufficient for a stronger conclusion.

Inadequate Information to Assess Carcinogenic Potential: This descriptor is used when available data are judged inadequate to perform an assessment.

Not likely to be Carcinogenic to Humans: This descriptor is used when the available data are considered robust for deciding that there is no basis for human hazard concern.

Noncarcinogenic effects were evaluated using reference doses (RfDs) developed by the U.S. EPA. RfDs are expressed as acceptable daily doses in milligrams of compound per kilogram of body weight per day (mg/kg-day). The RfD is a health-based criterion based on the assumption that thresholds exist for non-carcinogenic toxic effects (e.g., liver or kidney damage) based on a length of time of exposure (chronic and subchronic). In general, the chronic RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime of exposure (U.S. EPA, 1989a). Chronic RfDs are specifically developed to be protective for long-term exposure between 7 years and a lifetime to a compound. Chronic RfDs were used in this assessment to evaluate the noncarcinogenic effects associated with exposure to site-related COPCs.

The toxicity for most of the COPCs at Western Bayside and Breakwater Beach is relatively well-known and their toxicity criteria have been well established. If available, toxicity criteria were selected (in order of preference) from the following sources: (1) California DTSC Office of Environmental Health Hazard Assessment (OEHHA) Criteria for Carcinogens (DTSC, 2002); (2) U.S. EPA's Integrated Risk Information System (IRIS) (U.S. EPA, 2005b); and (3) U.S. EPA's Health Effects Assessment Summary Tables (HEAST) (U.S. EPA, 2001b). This is the same hierarchy used to derive toxicity values in the Seaplane Lagoon RI Report (Battelle et al., 2004b). Table 5-3 presents the cancer slope factors (CSFs) and noncarcinogenic chronic RfDs for all of the Western Bayside and Breakwater Beach COPCs. The majority of the COPCs at these sites were classified as Class B2 carcinogen based on animal studies.

U.S. EPA classifies all radionuclides as Group A carcinogens, based on their property of emitting ionizing radiation and on the extensive weight of evidence provided by epidemiological studies of radiogenic cancers in humans. The U.S. EPA's Health Effects Assessment Summary Tables (HEAST) lists ingestion and external exposure cancer slope factors for radionuclides in picocuries (10^{-12} curies) (U.S. EPA, 2001b and 2006b). Ingestion slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity ingested, and are expressed as risk/pCi. External exposure slope factors are central estimates of lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil (sediment), and are expressed as risk/yr per pCi/g soil. Radionuclide slope factors are calculated by U.S. EPA's Office of Radiation and Indoor Air (ORIA) for each compound based on its unique chemical, metabolic, and radioactive properties. Ingestion and inhalation slope factors for radionuclides account for:

- The amount of radionuclide transported into the bloodstream from either the gastrointestinal (GI) tract following ingestion, or from the lungs following inhalation;
- The growth and decay of radioactive progeny produced within the body subsequent to intake;
- The distribution and retention of each radionuclide (and its associated progeny, if appropriate) in body tissues and organs;

- The radiation dose delivered to body tissues and organs from the radionuclide (and its associated progeny, if appropriate); and
- The sex, age, and organ-specific risk factors over the lifetime of exposure.

Table 5-4 presents slope factors for the radionuclides. Radium and its radioactive decay chain products are designated with suffix "+D" to indicate that cancer risk estimates for these radionuclides include the contribution from their short-lived decay products, assuming equal activity concentrations with the principal or parent nuclide in the environment.

Compounds that did not have DTSC or U.S. EPA-approved toxicity criteria were not evaluated quantitatively. There are a variety of reasons why a chemical may not have a toxicity criterion. U.S. EPA may withdraw values due to lack of consensus among their scientists regarding the toxicity of particular compounds. This is not an indication by U.S. EPA that the compounds were nontoxic, but that the degree of toxicity is questionable. Other compounds have no U.S. EPA-accepted toxicity assigned to them and consequently, dose and risks estimates were not evaluated for these compounds.

However, because toxicity criteria are available for most of the chemicals with known or documented effects, it is assumed that the majority of the potential risk at the site is captured in this evaluation. Potential risks associated with exposure to any chemicals lacking U.S. EPA- or DTSC-approved toxicity criteria are discussed qualitatively in the uncertainty section.

5.4 Risk Characterization

Risk characterization involves estimating the magnitude of the potential adverse health effects of the hazardous chemicals under investigation and making summary judgments about the nature of the human health threat to the defined receptor populations. It combines the results of the dose-response (toxicity) and exposure assessment. During the risk characterization, estimates of cancer risk and the potential for noncarcinogenic effects are determined. Site-specific risks and hazards were compared to the risks and hazards associated with the reference locations in order to provide a perspective of the relative risk associated with Western Bayside and Breakwater Beach. In addition, cumulative risks were determined by summing the risks associated with each COPC.

5.4.1 Estimating Cancer Risks

The excess cancer risk was estimated using the following linear dose-response relation where risk is directly related to intake (U.S. EPA, 1989a):

$$\text{Risk} = \text{CSF} \times \text{LADD} \qquad (5\text{-}4)$$

where: Risk = Excess lifetime cancer risk (probability)
CSF = Cancer Slope Factor $(\text{mg/kg-day})^{-1}$
LADD = Lifetime average daily dose (mg/kg-day).

Only LADDs are used in conjunction with cancer slope factors to obtain excess lifetime cancer risk estimates, as slope factors are based on average lifetime exposures. Slope factors are derived for specific routes of exposure, so only oral toxicity values were applied in this assessment. Cancer risks from exposure to multiple carcinogens were assumed to be additive (U.S. EPA, 1989a). Risks are estimated as probabilities for constituents which elicit a carcinogenic response. The excess lifetime cancer risk is the incremental increase in the probability of getting cancer compared to the reference probability or that with no exposure to site COPCs. A risk of 1×10^{-6}, for example, represents the probability that for every one million people exposed during their lifetime (70 years) to a particular carcinogen at the specified level, one addition cancer case may occur.

5.4.2 Estimating Noncarcinogenic Hazard Quotients

The potential for noncarcinogenic health effects is estimated by comparing average daily dose (ADD) of a compound with the chronic reference dose (RfD) based on the oral route of exposure. The ratio of the intake to reference dose (ADD/RfD) for an individual chemical is termed the hazard quotient (HQ). A HQ greater than benchmark of one indicates the potential for adverse health effects, as the RfD is exceeded by the intake (U.S. EPA, 1986). These ratios are calculated for each chemical that elicits a noncarcinogenic health effect when an oral RfD is available for the chemical. HQs less than the benchmark hazard level indicate that no adverse health effects are predicted from exposure to COPCs at Western Bayside and Breakwater Beach for future residents and current recreational users. HQs greater than one indicate that exposure to that contaminant may cause adverse health effects in exposed populations. It is important to note, however, that the level of concern associated with exposure to noncarcinogenic compounds does not increase linearly as the HQ exceeds one.

Typically, chemical-specific HQs are summed to calculate pathway hazard index (HI) values. The HI is calculated by summing all HQs for all noncarcinogenic constituents through an exposure pathway:

$$\begin{aligned} HI &= HQ_1 + HQ_2 + \ldots + HQ_j \\ &= \left(ADD_1 / RfD_1 \right) + \left(ADD_2 / RfD_2 \right) + \ldots + \left(ADD_j / RfD_j \right) \end{aligned} \quad (5\text{-}5)$$

where: HQ_j = Hazard quotient of the j^{th} chemical
ADD_j = Average daily dose of the j^{th} chemical
RfD_j = Reference dose for the j^{th} chemical.

This approach can result in the situation where HI values exceed one even when no chemical-specific HQ exceeds one (i.e., adverse systemic health effects would be expected to occur only if the receptor were exposed to several contaminants simultaneously). In this case, chemicals are segregated by similar effect on a target organ, and a separate HI value for each effect/target organ is calculated (U.S. EPA, 1989a). If any of the separate HI values exceed one, adverse, noncarcinogenic health effects are possible.

5.4.3 Estimating Risks Associated with Radiological Exposures

Risks from exposure to radionuclides via external radiation were estimated using the following equation:

$$\text{Risk} = \text{Slope Factor} \times \text{Dose} \quad (5\text{-}6)$$

where: Risk = Excess lifetime cancer risk (probability)
Slope Factor = Radionuclide Cancer Slope Factor (risk/yr per pCi/g soil or risk/pCi)
Dose = Intake of radionuclide across the body (pCi/g per year or pCi).

The radionuclide slope factors in Table 5-4 are used to estimate the lifetime cancer incidence risk attributable to given radionuclide exposure conditions for an average member of the reference population. This estimate of excess risk is averaged over all ages and both genders for a population with specified mortality statistics (currently the U.S. population circa 1989-1991) (U.S. EPA, 2006b). The expected lifetime for an individual in this population is about 75 years. These slope factors are appropriate for assessing the average risk within this population, but are not suitable for assessing the risk to a single individual of a particular age or gender. The risks presented by each radionuclide (including radioactive decay products) and exposure pathway in a given exposure situation should be assessed separately and summed to estimate the total radiation risk.

5.4.4 Risk Characterization Results

5.4.4.1 Chemical Exposure

A summary of the individual risk and hazard values calculated for all chemicals evaluated within each exposure scenario are presented in Tables 5-5 through 5-8 for the shellfish consumption pathway, Tables 5-9 through 5-16 for the sediment exposure pathway, and Tables 5-17 through 5-24 for the fish consumption pathway. Cancer risks derived in this assessment can be compared to U.S. EPA's risk management range (i.e., 10^{-6} to 10^{-4}) for health protectiveness at Superfund sites. In addition to the calculation of individual risk and hazard values, cumulative risks and hazard indices were calculated for each scenario, and for the site overall (Tables 5-25 and 5-26). To calculate cumulative risks and hazard indices, risk and hazard levels estimated for individual chemicals were summed.

In general, risks and hazards associated with Western Bayside and Breakwater Beach were comparable to, and sometimes less than, those associated with reference conditions. The lowest cancer risks and non-cancer hazards were associated with the direct contact pathway; those associated with consumption of fish and shellfish were relatively similar for both the site and reference conditions. Cancer risks and hazard quotients associated with each of the exposure pathways are described below.

Western Bayside

At Western Bayside, individual hazard quotients for all chemicals of concern were below one under the RME and CTE scenarios for the shellfish consumption pathway (Table 5-5). The RME and CTE hazard indices were also less than one for shellfish consumption at Western Bayside, with arsenic (82.28%) as the main contributor. It should be noted that the calculation of risk and hazard from arsenic in fish and shellfish tissue assumes that all of the arsenic present is the more toxic inorganic form. This conservative assumption of the human health risk assessment likely overestimates the actual risk and hazard of arsenic by 90% (see Section 7.3.3). Individual cancer risks for arsenic, chromium, and benzo(a)pyrene were greater than 1×10^{-6} under the RME scenario, but the risk values for these chemicals of concern were similar to or lower than the reference risks (Table 5-7). Under the CTE scenario, only arsenic had an individual cancer risk greater than 1×10^{-6} but less than reference. Cumulative site cancer risks associated with shellfish consumption (9.53×10^{-4}) were less than those associated with reference conditions (1.31×10^{-3}) under the RME scenario. Arsenic (97%) was the main contributor to potential cancer risk associated with shellfish consumption.

The lowest cancer risks and hazard quotients were associated with the direct contact pathway with sediments at Western Bayside. The RME cumulative hazard index for adults (0.0081) and children (0.074) were well below the benchmark hazard level of one and were similar to reference values (0.008 and 0.07, respectively) (Tables 5-9 and 5-10). Antimony, chromium, and arsenic were the main (i.e., greater than 25% each) contributors to the sediment exposure hazard index, although the individual hazard quotients for these chemicals of concern were well below one. Arsenic and chromium had individual cancer risks greater than 1×10^{-6} and were the main contributors (76% for arsenic and 18% for chromium) to cancer risk through the RME sediment pathway (Tables 5-13 and 5-14). However, these individual risk values were lower than reference risk values, and under the CTE scenario, all chemicals of concern had individual cancer risks less than 1×10^{-6}. Cumulative cancer risks for adults (9.14×10^{-6}) and children (6.33×10^{-6}) associated with the RME sediment exposure pathway were within EPA's risk management range (i.e., 10^{-6} to 10^{-4}) and were lower than reference risks (1.36 x 10^{-5} and 9.45 x 10^{-6}). The cancer risks under the CTE scenario were 1.45 x 10^{-7} for adults and 8.51 x 10^{-7} for children.

For the fish consumption pathway, hazard quotients were less than one for all chemicals of concern for the adult and child RME and CTE scenarios at Western Bayside (Tables 5-17 and 5-18). The hazard index for adults (2.24) and children (1.07) under the RME scenario were slightly greater than one but less than reference values (16.8 and 7.8, respectively). The CTE hazard indices for the fish consumption pathway were well below one (0.17 for adults and 0.27 for children). Total PCBs (43%) and arsenic (39%) were the main contributors to the fish exposure hazard index, although the individual hazard quotients for these chemicals of concern were below one. Arsenic, chromium, and Total PCBs all had individual cancer risks greater than 1 x 10^{-6} for the RME scenarios for adults and children, with arsenic (94%) being the main contributor to total cancer risk through the fish consumption pathway (Tables 5-21 and 5-22). In addition, benzo(a)pyrene had a cancer risk slightly greater than 1 x 10^{-6} (i.e., 1.70 x 10^{-6}) for the adult RME scenario. However, these individual risk values were similar to or lower than reference values. Under the CTE scenario, only arsenic had an individual cancer risk greater than 1 x 10^{-6} but less than reference. The cumulative RME cancer risks for adults (1.03 x 10^{-3}) and children (1.09 x 10^{-4}) were less than reference risks (2.26 x 10^{-3} and 2.40 x 10^{-4}, respectively). In addition, the total cancer risks under the CTE scenario were within U.S. EPA's risk management range (2.55 x 10^{-5} for adults and 2.78 x 10^{-5} for children) and were less than reference (5.60 x 10^{-5} for adults and 6.10 x 10^{-5} for children).

Cumulative site cancer risks for Western Bayside, which is the total risk across all exposure pathways, were 1.99 x 10^{-3} for the RME scenario and 4.68 x 10^{-5} for the CTE scenario (Table 5-25). The total cancer risks to children at Western Bayside (1.15 x 10^{-4} RME and 2.87 x 10^{-5} CTE) were slightly less than those for adults. Although these risks were greater than the target risk of 1 x 10-6, total site risks for both adult and child RME and CTE scenarios were less than total reference risks. The total site hazards for adults (3.18) and children (1.14) under the RME scenario were slightly greater than one but less than reference values (18.03 and 8.04, respectively). The CTE cumulative site hazards were below one (0.24 for adults and 0.28 for children).

Breakwater Beach

At Breakwater Beach, shellfish consumption hazard quotients for the RME and CTE scenarios were below one for all individual chemicals of concern, except for arsenic (1.17) under the RME scenario (Table 5-6). The RME shellfish hazard index was also slightly greater than one (1.52) but was similar to reference (1.25) conditions. The CTE hazard index (0.11) was well below the target hazard of one. Arsenic (77.36%) and chromium (14.23%) were the main contributors to the shellfish consumption hazard index. As noted above for Western Bayside, the conservative assumption that all of the arsenic present in fish and shellfish tissue is the more toxic inorganic form likely overestimates the actual risk and hazard of arsenic by 90% (see Section 7.3.3). Individual cancer risks for arsenic, chromium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and Total PCBs were greater than 1 x 10^{-6} under the RME scenario, with risk values for arsenic, chromium, and Total PCBs being similar to reference risks (Table 5-8). RME cancer risks for benzo(a)anthracene (2.67 x 10^{-6}), benzo(a)pyrene (8.43 x 10^{-6}), and benzo(b)fluoranthene (2.24 x 10^{-6}) were above 1 x 10^{-6} and reference, but were all below the cancer threshold of 1 x 10^{-6} when typical exposure parameters (i.e., CTE) were used. Cumulative site cancer risks associated with shellfish consumption (1.50 x 10^{-3}) were similar to those associated with reference conditions (1.31 x 10^{-3}) under the RME scenario. Arsenic (95%) was the main contributor to potential cancer risk associated with shellfish consumption.

The lowest cancer risks and hazard quotients were associated with the direct contact pathway with sediments at Breakwater Beach. The RME cumulative hazard index for adults (0.0077) and children (0.070) were well below the benchmark hazard level of one and were similar to reference values (0.008 and 0.07, respectively) (Tables 5-11 and 5-12). Chromium and arsenic were the main (i.e., greater than 38% each) contributors to the sediment exposure hazard index, although the individual hazard quotients for these chemicals of concern were well below one. Arsenic and chromium had individual cancer risks greater than 1 x 10^{-6} and were the main contributors (77% for arsenic and 17% for chromium) to cancer risk through the sediment pathway (Tables 5-13 and 5-14). However, these individual risk values were lower than or similar to reference risk values. Cumulative cancer risks for adults (1.23 x 10^{-5}) and children (8.55 x 10^{-6}) associated with the RME sediment exposure pathway were within EPA's risk management range (i.e., 10^{-6} to 10^{-4}) and were lower than reference risks (1.36 x 10^{-5} and 9.45 x 10^{-6}). The cancer risks under the CTE scenario were 1.96 x 10^{-7} for adults and 1.15 x 10^{-6} for children.

For the fish consumption pathway, hazard quotients were less than one for all chemicals of concern for the adult and child RME and CTE scenarios, except for arsenic (1.21) and Total PCBs (1.26) in the adult RME scenario (Tables 5-19 and 5-20). The hazard index for adults (3.00) and children (1.42) under the RME scenario were slightly greater than one but less than reference values (16.8 and 7.8, respectively). The CTE hazard indices for the fish consumption pathway were well below one (0.22 for adults and 0.36 for children).

Arsenic, chromium, and Total PCBs all had individual cancer risks greater than 1 x 10^{-6} for the RME scenarios for adults and children, with arsenic (94%) being the main contributor to total cancer risk through the fish consumption pathway at Breakwater Beach (Tables 5-23 and 5-24). In addition, benzo(a)pyrene had a cancer risk slightly greater than 1 x 10^{-6} (i.e., 2.29 x 10^{-6}) for the adult RME scenario. However, these individual risk values were less than or similar to reference values. Under the CTE scenario, only arsenic and Total PCBs had an individual cancer risk greater than 1 x 10^{-6} but less than reference. The cumulative RME cancer risks for adults (1.40 x 10^{-3}) and children (1.48 x 10^{-4}) were less than reference risks (2.26 x 10^{-3} and 2.40 x 10^{-4}, respectively). In addition, the total cancer risks under the CTE scenario were within U.S. EPA's risk management range (3.47 x 10^{-5} for adults and 3.78 x 10^{-5} for children) and were less than reference (5.60 x 10^{-5} for adults and 6.10 x 10^{-5} for children).

Cumulative site cancer risks for Breakwater Beach were 2.91 x 10^{-3} for the RME scenario and 6.82 x 10^{-5} for the CTE scenario (Table 5-26). The total cancer risks to children at Breakwater Beach (1.57 x 10^{-4} RME and 3.90 x 10^{-5} CTE) were slightly less than those for adults. Although these risks were greater than the target risk of 1 x 10-6, total site risks for both adult and child RME and CTE scenarios were less than total reference risks. The total site hazards for adults (4.53) and children (1.49) under the RME scenario were slightly greater than one but less than reference values (18.03 and 8.04, respectively). The CTE cumulative site hazards were below one (0.33 for adults and 0.37 for children).

5.4.4.2 Radiological Exposure

A summary of the cancer risk values calculated for radionuclides at Western Bayside within each exposure scenario are presented in Table 5-27. For radionuclides, radium-228 was the main contributor (71%) of radiological cancer risk at Western Bayside. A majority of the risk was attributed to exposures via external radiation. Risks estimated for all RME and CTE scenarios were found to be consistent with acceptable risk levels for residents of 10^{-6}. In addition, the RME (1.18 x 10^{-6}) and CTE (1.65 x 10^{-7}) overall site risks were at or below the target risk level (1 x 10^{-6}).

5.5 Summary of Human Health Evaluation

Based on the results of the human health evaluation, risks and hazards to humans from chemicals in Western Bayside and Breakwater Beach sediments appear to be similar to risks and hazards from reference conditions and do not pose an unacceptable risk to human health. At Western Bayside, RME and CTE hazard indices for all three exposure pathways were less than one, except for the fish consumption RME hazard index, which was less than reference. A few chemicals of concern (arsenic, chromium, benzo(a)pyrene, and Total PCBs) had individual cancer risks greater than 1 x 10^{-6} for at least one of the three exposure pathways under the RME scenario. Arsenic was the main contributor (76 –

97%) to potential cancer risk for all three exposure pathways at Western Bayside, and was the only chemical of concern with an individual cancer risk greater than 1 x 10^{-6}, but less than reference, under the CTE scenarios. Total cumulative risks for each of the exposure scenarios, as well as the total site risk and hazard, at Western Bayside were less than those for reference conditions. In addition, risks estimated for radionuclides at Western Bayside were found to be lower than acceptable risk levels for residents (10^{-6}).

At Breakwater Beach, RME and CTE hazard indices for all three exposure pathways were less than one, except for the shellfish and fish consumption RME scenarios, which were less than reference. A few chemicals of concern (arsenic, chromium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and Total PCBs) had individual cancer risks greater than 1 x 10^{-6} for at least one of the three exposure pathways under the RME scenario. However, these risks were either similar to (or lower than) RME reference risks, or were less than 1 x 10^{-6} under average exposure (i.e., CTE) conditions. Arsenic was the main contributor (77 – 95%) to potential cancer risk for all three exposure pathways at Breakwater Beach. Total cumulative risks for each of the exposure scenarios, as well as the total site risk and hazard, at Western Bayside were similar to or less than those for reference conditions.

Given that the majority of assumptions regarding EPCs and exposure parameters made in the human health risk assessment are conservative and tend to overestimate exposure and risk/hazard (see Section 7.3), the incremental risks and hazards to the defined receptor populations from exposure to chemicals of concern at Western Bayside and Breakwater Beach are likely to be overestimated. This is especially true in the case of arsenic, which was the main contributor to cancer risk and non-cancer hazards for all exposure pathways at both Western Bayside and Breakwater Beach. The conservative assumption that all of the arsenic present is the more toxic inorganic form likely overestimates arsenic risk and hazard by 90%. In addition, the human health risk assessment conservatively assumed that 100% of the fish and shellfish consumption exposures were associated with the study sites. Based on the conservative assumptions of the human health risk assessment, and the fact that total risks and hazards (for both individual exposure pathways and all pathways combined) were similar to or less than reference risks and hazards, it is concluded that there are no unacceptable risks to human health at Western Bayside and Breakwater Beach. It is recommended that no action is required at both sites.

6.0 ECOLOGICAL RISK EVALUATION

This section presents the results of the ecological risk assessment conducted in support of the SI at the offshore sediment sites at Western Bayside and Breakwater Beach. This ecological risk assessment evaluated historical (sediment, tissue, and toxicity bioassay) data collected in the offshore areas of Alameda Point and incorporated additional sediment data recently collected by Battelle (2005b). A full discussion of the site history, description of previous investigations, an evaluation of the newly collected sediment data, and a comprehensive discussion of nature and extent at Western Bayside and Breakwater Beach are provided in previous sections.

6.1 Ecological Risk Assessment Objectives and Approach

The main objectives of the ecological risk assessment are to (1) evaluate the potential for adverse effects to the environment through exposure to sediment contaminants at Western Bayside and Breakwater Beach under current conditions, and (2) provide information for risk management decisions.

To evaluate these potential ecological risks, guidance from U.S. EPA (1992 and 1997b) and the Navy (DON, 2001) was followed. As outlined in these guidance documents, a tiered process was used (Figure 6-1). In the first tier, a screening-level ecological risk assessment (SLERA) was conducted (encompassing Steps 1 and 2 of the U.S. EPA guidance), which consisted of a preliminary problem formulation, and a screening-level dose assessment using conservative assumptions. The second tier, or baseline ecological risk assessment (BERA) (Steps 3 through 7 of the U.S. EPA process), used the output of the SLERA to refine the problem formulation and to further evaluate the potential for adverse effects to receptors of concern (ROC) by using more site-specific data, when available.

Although the existing guidance provides a general framework for ecological risk assessments, it recognizes that approaches and methodologies must be tailored to assessment scenarios at individual sites. U.S. EPA characterizes the assessment of ecological risk as a complex, nonlinear process that involves many parallel activities and emphasizes that the ecological risk assessment framework was designed to be flexible, thereby allowing studies to be scaled in a manner appropriate to the requirements of and conditions at each site (U.S. EPA, 1997b).

The following provides an overview of the proposed approach.

SLERA: The objective of the SLERA is to conservatively screen the offshore sites and to determine whether additional assessment is necessary. It is used as a tool to focus the BERA on only those assessment endpoints (AEs) and contaminants that require further evaluation. The SLERA consisted of:

- **Preliminary Problem Formulation:** In this first step, key factors to be considered in the ecological risk assessment were identified. This included compiling available information and data on the offshore areas of Alameda Point, characterizing the nature and extent of site-specific stressors and the natural resources at risk. In this preliminary analysis, COPECs were identified and biological species and endpoints were selected for evaluation. This information was used to formulate a CSM and to identify the scope and goals of the ecological risk assessment.
- **Screening-Level Risk Estimate:** In the SLERA, a preliminary estimate of risk was conducted. The SLERA used conservative assumptions to estimate exposure and effects to potential ecological receptors. This ensured high confidence in any determination of no unacceptable risk. However, findings of potential risk were not definitive indications of risk but, rather, indications of a possibility of risk that required further evaluation. Those

receptors and COPECs identified in the SLERA as posing the potential for risk were evaluated more fully in the BERA.

BERA: In the BERA, the preliminary problem formulation developed in the SLERA was refined, and an assessment of exposure and effects was conducted on the selected AEs. The measurements of exposure and effects were then integrated into a characterization of risk. The specific components of the BERA were:

- **Refined Problem Formulation:** The first step of the BERA was to refine the preliminary problem formulation and CSM developed in the SLERA. The CSM was re-evaluated in light of the outcome of the SLERA and was refined as necessary. The AEs selected in the SLERA also were re-evaluated to ensure that they were applicable and relevant to the BERA. Specific measurement endpoints (MEs) also were selected to maximize the use of existing, historical data collected from the offshore area.
- **Exposure and Effects Assessment:** In this phase, refinements were made to the conservative screening model conducted in the SLERA to better estimate the potential for adverse effects based on site-specific information rather than conservative defaults. The relationship between the degree of exposure and ecological effects was assessed using field measures and available ecotoxicological literature.
- **Risk Characterization:** The risk characterization step of the BERA integrates the exposure and effects assessment to evaluate the potential for unacceptable ecological risk at the site. In the BERA, the risk characterization for each AE included an estimation of potential risks and a determination of the ecological significance of potential risks.

Quantitative data were collected and used to assess exposure and the potential toxic effects of COPECs to selected AEs. The following specific types of data were collected or reviewed during the ecological risk assessment:

- Site-specific ecological surveys to identify ecological receptors;
- Chemical analysis of samples of sediment to evaluate the nature and extent of contamination;
- Measurements of other parameters such as grain size, pH, and organic carbon that aid in estimating the bioavailability of chemical stressors;
- Bioassays to evaluate the direct toxicity of COPECs to benthic invertebrates;
- Chemical analysis of tissue residue from sediment invertebrates and fish to evaluate the potential for bioaccumulation and trophic transfer of chemicals;
- Food-chain modeling to estimate potential doses received by higher-trophic level receptors; and,
- Literature review on a variety of topics to help interpret site-specific data.

6.2 Preliminary Problem Formulation

The primary goal of the preliminary problem formulation is to establish the goals and the focus of the ecological risk assessment based on the site history, physical and ecological setting, and potentially complete exposure pathways. This information is used to develop a preliminary CSM and preliminary AEs. The site description and history for each of the sites evaluated in this SI are provided in Section 2.

6.2.1 Ecological Setting

San Francisco Bay is commonly subdivided into three geographical areas designated as the North Bay, Central Bay, and South Bay, with Alameda Point located in the Central Bay area. The offshore and intertidal areas of Western Bayside and Breakwater Beach are briefly described below and are shown on Figure 1-2. Although a complete habitat evaluation has not been conducted for the offshore areas of Alameda Point, information presented in previous ecological assessments for Alameda Point (PRC, 1994) was used to describe the composition of the biotic communities in the offshore areas. Additionally, habitat assessments conducted for the Port of Oakland (GGAS, 1994; ENTRIX, Inc., 1997) provided supplementary information. This information is summarized below. Full species list tables can be found in Appendix E. A conceptual food web that illustrates the relationships among the species found in the offshore area of Alameda Point can be found in Figure 6-2.

6.2.1.1 Invertebrates

The offshore waters and sediment around Alameda Point support a variety of prey items such as plankton (phytoplankton and zooplankton) and benthic organisms (e.g., polychaete worms, mollusks and crustaceans) (PRC, 1994; PRC, 1996a; ENTRIX, 1997). On the western edge of Alameda Point (at Western Bayside), the benthic fauna are dominated by crustaceans, annelids, and molluscs. The most abundant species include black shrimp (*Crangon nigricauda*), sand shrimp (*Crangon franciscorum*), and dungeness crab (*Cancer magister*). Several species of polychaete worms and bivalves (e.g., *Mytilus edulis*) are also abundant (PRC, 1996c; TtEMI, 2000b). In sediment samples collected in the general vicinity of Western Bayside, Chapman et al. (1987) reported an abundance of crustacean species (*Ampelisca abdita, Photis californica,* and *Leptochelia* sp.), as well as the presence of polychaetes (*Euchone analis*) and Phoronidae (tube worms; *Phoronis* sp.). Sediment sampling conducted in 2001 (Battelle et al., 2004a) at Western Bayside in support of the Skeet Range RI found shallow sediments in the area containing thick mats of amphipod tubes (*A. abdita*). No specific benthic invertebrate sampling has been conducted at Breakwater Beach, but sediment characteristics are similar between Breakwater Beach and Western Bayside, thus it is expected that benthic organisms found at Breakwater Beach are similar to those found at the other offshore areas (i.e., annelids, crustaceans, and molluscs). A list of potentially occurring benthic invertebrate species in the offshore sediment areas of Alameda Point can be found in Appendix E.

6.2.1.2 Fish

The benthic invertebrate species found in offshore sediments represent a food source for predators such as fish and benthic-feeding birds. Information on the fish community at Western Bayside and other Alameda Point areas was developed in the *Habitat Evaluations, Port of Oakland 50 ft Deepening Project* (ENTRIX, 1997). The nearshore environment in the vicinity of Western Bayside supports a diverse fish community (ENTRIX, 1997), including estuarine, marine, and anadromous fishes. Among them are various flatfish, surfperch, gobies, sculpin, silversides, pipefish, sharks, and rays. Several species of both pelagic and benthic fish are anticipated to be present, including shiner perch (*Cymatogaster aggregata*), bay pipefish (*Syngnathus leptorhynchus*), walleye surfperch (*Hyperprosopon urgenteum*), and redtail surfperch (*Amphistichus rhodoterus*). No specific sampling for fish has been conducted at Breakwater Beach, but it is likely that fish found in other offshore areas of Alameda would potentially use habitat at Breakwater Beach. A list of potentially occurring fish species in the offshore areas of Alameda Point can be found in Appendix E.

6.2.1.3 Birds

Field surveys of bird communities in the vicinity of the Port of Oakland and Alameda Point were conducted in the winter (January-April) and summer (June-July) of 1997 (ENTRIX, 1997). Two of the survey areas were located off of the northern side of Alameda Point and encompass the Oakland Inner Harbor and Western Bayside Area. These surveys indicated that the open water habitat of the channel supports a variety of bird species, including diving birds such as the double-crested cormorant (*Phalacrocorax auritus*), western and Clark's grebes (*Aechmorphorus* sp.), American wigeon (*Anas americana*) and common and Pacific loons (*Gavia* sp.). Surface diving birds, including the federally and state-endangered California least tern (*Sterna antillarum browni*) and California brown pelican (*Pelecanus occidentalis*), are known to forage and rest in areas within and adjacent to the Oakland Inner Harbor, located along the northern shore at Alameda Point, although only one pelican was observed in the ENTRIX (1997) field surveys. Other water-dependent bird species such as American coots (*Fulica americana*), gulls (*Larus* sp.), and wading birds (e.g., egrets) also have been observed in Oakland Inner Harbor (ENTRIX, 1997). No specific bird surveys have been conducted in Breakwater Beach. Given the short distance and similar habitat at Breakwater Beach to the other Alameda Point areas, it is expected that Breakwater Beach will have the same avian community as listed above. A full avian species list, including seasonal information, can be found in Appendix E.

6.2.1.4 Mammals

Based on historical observations and known activity patterns for marine mammals in San Francisco Bay (GGAS, 1994), it is possible that both California sea lions (*Zalophus californianus*) and harbor seals (*Phoca vitulina*) may forage in the vicinity of Alameda Point. Although the presence of either of these species in specific areas of Alameda Point has not been documented, harbor seal foraging activities and haul-outs have been observed along and near the breakwaters on the southern side of Alameda Point. However, available radiotelemetry data for seals in San Francisco Bay suggest that none of the seven discreet feeding stations typically frequented by seals within the bay is in the immediate vicinity of Alameda Point (Harvey and Torok, 1994). A list of potential marine mammal species observed within or near Alameda Offshore Areas can be found in Appendix E, as well as a qualitative exposure assessment for the harbor seal.

6.2.1.5 Special-Status Species

Special-status species known to occur in the Central Bay include green sturgeon (*Acipenser medirostris*), winter-run Chinook salmon (*Oncorhynchus tshawytscha*), central California steelhead (*Oncorhynchus mykiss*), Barrow's goldeneye (*Bucephala islandica*), double-crested cormorant, California least tern, California brown pelican, western snowy plover (*Charadrius alexandrinus nivosus*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), American peregrine falcon (*Falco peregrinus anatum*), California sea lion, and harbor seal (ENTRIX, 1997). None of these species are known to nest or breed in the offshore areas, although several species are known to use adjacent upland areas for nesting and/or foraging activities (e.g., least tern).

Additional information detailing conservation status, distribution, abundance, seasonality, life history, and occurrence in the vicinity of Alameda Point for each of the special–status species is discussed in more detail in Appendix E.

6.2.2 Development of Conceptual Site Model

The CSM is a framework for relating ecological receptors to contaminated media and determining the degree of completion and significance of exposure pathways. In general, an exposure pathway describes the course a chemical takes from the source to the exposed receptor. An exposure pathway analysis links the source, location, and type of environmental release with population location and activity patterns to determine the primary pathways of exposure. If potentially complete and significant exposure pathways exist between contaminants and receptors, an assessment of potential effects and exposure was conducted.

Only those potentially complete exposure pathways likely to contribute significantly to the total exposure were quantitatively evaluated. All other potentially complete exposure pathways which result in minor exposures or for which there are no exposure models or insufficient toxicity data were not quantitatively evaluated in this assessment.

An exposure pathway was considered complete if all four of the following elements were present:

- A source and mechanism of chemical release to the environment;
- An environmental retention or transport medium (e.g., water or sediment) for the released chemical;
- A point of potential physical contact of a receptor with the contaminated medium (exposure point); and,
- An exposure route (e.g., ingestion of contaminated prey, incidental ingestion of sediment).

The potentially complete and significant ecological exposure pathways present at the offshore sites were similar except for differences among sites in the potential primary sources and primary release mechanisms. Site-specific CSMs for Western Bayside and Breakwater Beach can be found in Figures 6-3 and 6-4.

For both sites, sediment was considered the primary exposure media. Although it is recognized that sediment-associated pore water can be a potentially important exposure pathway, pore water analyses were not considered necessary because bulk sediment analyses were expected to adequately characterize the site (Battelle et al., 2005b). The other potential exposure medium identified in the CSM was surface water. Although chemicals from the site may have historically been released to surface water as a result of historical discharges, those potential sources have been addressed as part of an upland storm water investigation. Additionally, surface water was not considered a significant exposure medium due to tidal action and San Francisco Bay currents, which result in rapid dilution.

Benthic invertebrates in offshore sediments may be exposed to COPECs through ingestion of and direct contact with surface sediments. An evaluation of major exposure pathways to higher trophic levels indicates that there are potentially complete exposure pathways to benthic–feeding and piscivorous fish and birds. Exposure to these secondary and tertiary trophic consumers is through ingestion of prey that has been exposed to COPECs, as well as incidental ingestion of surface sediments in the area.

Tertiary trophic consumers with the highest potential exposure to COPECs are piscivorous birds. While marine mammals such as the harbor seal may be observed in the areas offshore of Alameda Point, their exposure to contaminants in the offshore sediments is likely to be minimal (see Appendix E for a detailed discussion regarding marine mammal usage of Alameda Point). Therefore, marine mammals will not be evaluated quantitatively in this risk assessment.

6.2.3 Selection of Assessment Endpoints

Based on the ecological resources and complete exposure pathways identified in the CSM, AEs were developed to identify the ecological values at the site that should be protected. In general, AE selection considered the ecosystem, communities, and species relevant to a specific site. AEs were defined based on technical considerations, including the:

- Chemicals present and their concentrations;
- Mechanisms of toxicity of the chemicals to different groups of organisms;

- Ecologically relevant receptor groups that are potentially sensitive or highly exposed to the chemicals; and,
- Potentially complete exposure pathways.

Based on the conceptual food web (Figure 6-2) and the CSMs (Figures 6-3 and 6-4), preliminary AEs were identified for the offshore areas as follows:

AE(1): Sufficient rates of survival, growth, and reproduction to sustain the benthic invertebrate community in the offshore areas of Alameda Point.

AE(2): Sufficient rates of survival, growth, and reproduction to sustain benthic-feeding and piscivorous-feeding fish communities in the offshore areas of Alameda Point.

AE(3): Sufficient rates of survival, growth, and reproduction to sustain the avian community in the offshore areas of Alameda Point. This AE also includes the protection at the level of the individual for special-status species as appropriate.[1]

6.2.4 Selection of Receptors of Concern

Because it is impractical to assess the toxic effects of COPECs to all potentially exposed ecological receptors, a subset of potential receptors was chosen to act as a "surrogate species" for each AE. These ROCs were defined as follows:

- Species that represent a functional group of organisms at the site for the evaluation of AEs; and
- Species that are chosen based primarily on their function in the ecosystem and secondarily on taxonomic relatedness and known or presumed similarities in physiology and life history.

Because they represent a larger group, ROCs were selected so that they maximize exposure, thus producing conservative estimates of risk. For those AEs that are generic in nature [e.g., AE(1) and AE(2)], selection of representative receptors was not necessary. These AEs are evaluated using benchmarks that are not specific to a particular species. For example, the benthic invertebrate sediment benchmarks used to evaluate benthic invertebrates were developed based on observed toxicity to a number of invertebrate species and are considered protective of a variety of species; thus, it is not necessary to select a specific representative species for these AEs. Therefore, the selection of ROCs focused on the upper trophic-level avian receptor groups addressed by AE(3).

Avian ROCs were selected to conservatively represent the avian community that forages in the offshore area of Alameda Point. To provide consistency, ROCs also were chosen that were evaluated in past ecological risk assessments at Alameda Point (e.g., Skeet Range, Seaplane Lagoon, and at Oakland Inner Harbor and the Pier Area). For the offshore areas of Alameda Point, the avian trophic groups with the most significant potential for exposure to sediment-bound contaminants are the benthic-invertebrate eating birds, omnivorous birds and piscivorous birds (Figure 6-2). To bound the range of exposure, benthic-invertebrate eating birds and piscivorous birds were chosen to represent this AE. Additionally, because special-status bird species are regulated at the level of the individual and non-special status species are regulated at the population level, both non-special status and special-status bird species were selected.

[1] This assessment endpoint was modified from those described in the Final Offshore Sediment Study Work Plan (Battelle et al., 2005b) by combining both the non-special and special-status avian species into one assessment endpoint.

6.2.4.1 Selection of the Benthic-Feeding ROC

Benthic-feeding birds feed on invertebrates by probing or plucking prey from the substrate in intertidal and subtidal areas. Because these species feed on prey that are in close contact with sediments, they may be exposed to COPECs in sediments through either the prey (which has bioaccumulated COPECs in tissues) or through incidental ingestion of contaminated sediment (via their foraging behavior or sediment found in the guts of their prey). Wading shorebirds, such as the dowitcher, probe in shallow waters to sift small crustacea out of sandy sediments. Diving birds, such as surf scoters and ruddy ducks, dive and pluck prey (such as molluscs) from the substrate. Although wading shorebirds may be the most exposed because of the substantial amount of sediment contacted during feeding, the available intertidal foraging area for these species is small. Because the majority of available habitat around Western Bayside and Breakwater Beach is subtidal, diving birds such as benthic-feeding diving ducks were considered the most appropriate ROC for the offshore areas.

A number of species of diving ducks have been observed at Alameda Point including surf scoters, white-winged scoters, black scoters, ruddy ducks, greater scaups, buffleheads, and common goldeneyes. All are present as winter residents that breed in northern Canada and Alaska.

Of these species, the surf scoter was selected as the ROC representative of benthic-feeding birds. The scoter was selected for the following reasons:

- Surf scoters have been observed offshore of Alameda Point (excess of 3,000 surf scoters have been observed on the waters west of Alameda Point).
- Surf scoters can frequently forage in waters up to 10 meters (m) deep (Savard et al., 1998). This would allow them to forage in most of the subtidal offshore areas.
- Surf scoters feed primarily on molluscs (Vermeer and Bourne, 1984; Ohlendorf et al., 1986). Bioaccumulation data are available for the clam *M. nasuta* from the offshore sites, so food-chain modeling using *M. nasuta* body burdens is an ecologically relevant scenario.
- There is a substantial body of comparative contaminant literature on the scoter. Trace metal analyses of scoter tissue and scoter prey items have been reported from British Columbia (Vermeer and Peakall, 1979), and trace element and organochlorine residues in scoters have been reported from San Francisco Bay (Ohlendorf et al., 1991).
- Surf scoters have been evaluated in other ecological risk assessments conducted at Alameda Point (Seaplane Lagoon and Skeet Range) and exposure parameters have been agreed upon by the agencies (Battelle et al., 2004b and 2004a).

Surf scoters are a long-lived species with low reproductive output. They breed in Alaska and Canada and winter along the Pacific and Atlantic coasts; they are present in the San Francisco Bay from mid-October/November through late April (Savard et al., 1998). Pairs form at wintering grounds (Morrier et al., 1997 as cited in Savard et al., 1998), and females have single broods and begin laying their clutch in concealed nests constructed in the ground, with clutch size ranging from 6 to 9 eggs (Morrier at al. 1997 as cited in Savard et al., 1998). The young are precocial and can fly by 55 days (Lesage et al., 1997 as cited in Savard et al., 1998).

Scoters feed on mollusks on their wintering grounds, herring eggs when available during spring migration, and freshwater invertebrates while breeding (Savard et al., 1998). On their wintering grounds, they dive down and prey on stationary invertebrates such as mussels, barnacles, and clams (Ohlendorf et al., 1986; Savard et al., 1998).

No specific information has been identified regarding scoter home ranges while wintering in San Francisco Bay. However, a radiotelemetry study conducted in Puget Sound found that wintering birds stayed within 9 to 11 kilometers (km) of their capture location. Most birds used between two and seven locations (defined as 1 km diameter areas) 76 to 87% of the time studied (Mahaffy et al., 1995).

6.2.4.2 Selection of the Piscivorous Avian ROC

Piscivorous birds may also be potentially exposed to COPECs from offshore sediments through foraging on prey that have bioaccumulated contaminants. Several species of diving piscivorous birds have been observed near Alameda Point including the double-crested cormorant, the pie-billed grebe, horned grebe, eared grebe, western grebe, Clark's grebe, Pacific loon, common loon, California least tern, California brown pelican, and Caspian and Forster's terns.

Of the piscivorous bird species observed offshore of Alameda, the double-crested cormorant and the California least tern were selected as ROCs. The double-crested cormorant was selected for the following reasons:

- The species is widespread in San Francisco Bay with nesting colonies potentially within foraging distance of the offshore areas of Alameda Point (located on the Bay Bridge; Ainley, 2000); as such, they are found year round in San Francisco Bay;
- Double-crested cormorants have been observed offshore of Alameda Point;
- Because double-crested cormorants forage in shallow waters overlying bottoms of flat relief (<8 m deep) (Hatch and Weseloh, 1999; Ainley, 2000), they could be exposed to most of the offshore areas. This is contrasted with piscivorous wading birds (e.g., the great blue heron [*Ardea herodias*] or the snowy egret [*Egretta thula*]) that are restricted to the shallow inter-tidal zone, which makes up only a small proportion of the area off of Western Bayside.
- Double-crested cormorants have been evaluated in other ecological risk assessments conducted at Alameda Point (Seaplane Lagoon) and exposure parameters have been agreed upon by the agencies (Battelle et al., 2004b).

Double-crested cormorants are a California species of special concern. In the San Francisco Bay Area, they are most prevalent in the winter; however, there is a large breeding population in the summer (Ainley, 2000). They breed April through August. Twelve colonies are located in the San Francisco Bay area, with the largest colonies on the Oakland-San Francisco Bay Bridge and the Richmond-San Rafael Bridge (Ainley, 2000). Clutch size is usually three to four eggs (Zeiner et al., 1990).

Double-crested cormorants usually forage in water less than 8 m deep (Hatch and Weseloh, 1999). Around the Richmond-San Rafael Bridge, their diet consisted mainly of midshipman (*Porichthys notatus*), various species of smelt (*Osmeridae*), and yellowfin gobies (*Acanthogobius flavimanus*) (Stenzel et al., 1995). Other studies on the West Coast found that *atherinids* (topsmelt), *embiotocids* (surfperch), *engraulids* (herring), *scaenids* (rockfish), and midshipman are commonly eaten by the double-crested cormorant (Ainley et al., 1981). Prey fish are generally less than 15 cm in length (Hatch and Weseloh, 1999). Ainley et al. (1981) also found that the double-crested cormorant preferred to forage on schooling prey from the surface to near flat bottoms.

In San Francisco Bay, double-crested cormorants were found to forage within 5 km of the Richmond-San Rafael Bridge (Stenzel et al., 1995). Birds from the Farallon Islands frequently travel to mainland estuaries to feed (over 70 km). In Wisconsin, birds flew less than 3 km on average (maximum distance

40 km) from the breeding colony to the first foraging site (Custer and Bunck, 1992). In Mississippi, the average distance flown was 15.7 km (in King et al., 1995 as cited in Cal/U.S. EPA, 1999).

The California least tern was selected as an ROC for the following reasons:

- The California least tern is a federally listed endangered species that breeds on Alameda Point and has been recorded to feed predominantly in waters close to the shore (Collins, 1994). Because it has been observed breeding at Alameda Point, it is present during a sensitive life stage (egg laying and rearing of nestlings).
- The nesting success of least tern colonies at Alameda Point and elsewhere is closely monitored; therefore if needed, additional site-specific data are available for this species. The number of pairs nesting, the number of eggs laid per nest, and the number of young fledged per nest have all been used as measures of reproductive success in the least tern and other seabirds. It is a convenient measure and one that has already accumulated several years of data (since 1993) as well as adequate reference data (the state-wide average young-per-nest is approximately 0.7) (Collins, 1994).
- Least terns have been evaluated in other ecological risk assessments conducted at Alameda Point (Seaplane Lagoon) and exposure parameters have been agreed upon by the agencies (Battelle et al., 2004b).

Least terns winter south of California and are absent from San Francisco Bay from mid-October through late April. Least terns are present at their nesting colony from April through August. Nesting starts in mid-May, with most nests completed by mid-June (Bent, 1929; Davis, 1968; Massey, 1974; Elliot and Sydeman, 2002). Late-season nests may be renested by late-arriving second-year individuals (Wilbur, 1974; Collins and Bailey, 1980; Massey and Atwood, 1981; Elliot and Sydeman, 2002). Clutch size is usually two to three, and a single brood is raised yearly. Incubation, by both parents, lasts 17 to 28 days, usually 20 to 25 days. The semiprecocial young are tended by both parents. Young become strong and mobile at three days, and can fly by 28 days (Terres, 1980; United States Fish and Wildlife Service [USFWS], 1980). The young continue to be fed by parents for about two weeks after leaving the colony.

Terns nesting at Alameda Point forage around the Point and all along the entire south shore of Alameda, from the breakwater west of Seaplane Lagoon to the Elsie B. Roemer Sanctuary and beyond to Tidal Pond at the northwest end of the Oakland Airport (Collins and Feeney, 1993). However, the area adjacent to Alameda Point had the highest usage by terns. Least terns feed primarily in shallow estuaries or lagoons where small fish are abundant. They hover and then plunge for fish near the surface, without submerging completely. Prey in California includes anchovy (*Engraulis* sp.), silversides (*Atherinops* sp.), and shiner surfperch (*Cymatogaster aggregata*). Considerable feeding also takes place near shore in the open ocean (Cogswell, 1977), especially where lagoons are nearby, or at mouths of bays.

Human disturbance at former coastal nesting areas has reduced the breeding population in California (Garrett and Dunn, 1981). At Alameda Point, however, the least tern colony has grown in size (over 10% per year) and is now the largest in northern California. In the 2001 breeding study (Elliot and Sydeman, 2002), 267 breeding pairs of terns were estimated at the Alameda Point colony, and the estimated number of fledglings was 320, with an estimated 1.2 fledglings/pair. This exceeds the state-wide average of 0.7 young-per-nest (Collins, 1994).

6.2.5 Selection of SLERA Measurement Endpoints

A measurement endpoint (ME) is defined as a "measurable ecological characteristic that is related to the valued characteristic chosen as the assessment endpoint" and is a measure of biological effects (e.g., mortality, reproduction, growth) (U.S. EPA, 1997b). The AEs and their associated MEs selected for the SLERA are summarized below.

AE(1): Sufficient rates of survival, growth, and reproduction to sustain the benthic invertebrate community in offshore areas.

- ME(1): Compare bulk sediment chemistry results to conservative screening benchmarks from the literature.

AE(2): Sufficient rates of survival, growth, and reproduction to sustain benthic–feeding and piscivorous fish communities in offshore areas.

- ME(1): Compare bulk sediment chemistry results to conservative screening benchmarks from the literature.

AE(3): Sufficient rates of survival, growth, and reproduction to sustain the avian community in the area. This assessment endpoint also includes the protection at the level of the individual for special-status species as appropriate.

- ME(1): Compare conservative exposure doses (i.e., derived from maximum sediment and tissue concentrations and conservative exposure parameters) for benthic feeding birds to toxicity reference values (TRVs).
- ME(2): Compare conservative exposure doses for piscivorous birds represented by the least tern (a special status species) to TRVs.
- ME(3): Compare conservative exposure doses for piscivorous birds represented by the double-crested cormorant to TRVs.

6.2.6 Data To Be Considered

Based on the potentially complete exposure pathways identified in the CSM and the preliminary AEs identified above, the available data for the offshore areas that are relevant to assessing ecological receptors were identified. Data to be considered included historical and recent sediment chemistry data, sediment grain size, historical biological tissue (*M. nasuta*) chemistry data, and historical site-specific toxicity bioassay data.

6.2.7 Selection of Preliminary COPECs

All chemicals detected in sediment were selected as COPECs for the SLERA. A detailed discussion of the nature and extent of sediment constituents at Western Bayside and Breakwater Beach can be found in Section 4.

6.3 Tier 1 Screening-Level Risk Estimate

The objective of the screening-level risk estimate is to use conservative screening methodologies to screen the offshore sites and to determine whether additional ecological assessment is necessary. It is used as a tool to focus the baseline evaluation only on those AEs and contaminants that require further evaluation. In the absence of site-specific data, a screening-level assessment uses conservative assumptions to estimate exposure and effects to potential ecological receptors. This results in a protective assessment to support determinations of no unacceptable risk. However, findings of potential risk are not definitive indications of risk but, rather, indications of a possibility of risk that requires further evaluation.

Those receptors and COPECs identified in the SLERA as posing the potential for risk will be evaluated more fully in the BERA.

This section presents the screening-level assessment and includes a discussion of approaches used to assess exposure and ecological effects. Results are presented in the form of hazard quotients (HQ) or risk estimates. A characterization of risk is not included in the assessment because screening-level exceedances do not provide evidence of risk. Instead, the results of the assessment are used to focus the BERA on those compound-receptor pairs that fail the conservative screen. Based on the preliminary CSM and AEs identified, exposures via direct contact (to benthic invertebrates and fish) and indirectly through the food chain (to birds) were evaluated in the SLERA.

6.3.1 Screening-Level Exposure Assessment

This section presents the approaches used to develop screening-level exposure estimates for the offshore sediment areas. The general approach was to incorporate considerable conservatism into the development of exposure estimates in order to minimize the potential for falsely screening a COPEC from further evaluation based on the screening-level assessment. Two types of exposure estimates were included in this screening-level evaluation:

- Exposure to COPECs in abiotic media via direct contact;
- Exposure to COPECs via uptake through the food web.

Three separate sediment data sets were evaluated for Western Bayside representing different time periods and exposure scenarios. The data sets for Western Bayside were:

- All Years: This data set encompassed all the historical data collected in the surface sediment (0-5 cm) at the site (Section 4.1.1 for details of all studies). The most current data in this data set are from 2005.
- 2005 Surface: This data set includes all the surface data (0-5 cm) collected in 2005.
- 2005 Subsurface: This data set includes the deeper sediment (5-25 cm) collected in 2005 that was requested by the regulatory agencies to be evaluated in the ecological risk assessment.

One sediment data set was evaluated for Breakwater Beach:

- All Years: This data set encompassed all the historical data collected in the surface sediment (0-5 cm) at the site (Section 4.1.1 for details of all studies). The most current data in this data set are from 2002. It should be noted that the depth of the surface interval collected at Breakwater Beach in 1996 was much deeper (0 – 91 cm) than that collected in 1998 (0 – 6 cm) and 2002 (0 – 5 cm).

The most relevant data set to the ecological risk assessment is the 2005 Surface data set as it is (1) representative of current conditions, (2) the sediment horizon that results in the most significant portion of exposure to receptors, and (3) consistent with the sediment horizon evaluated in ongoing monitoring programs in San Francisco Bay (SFEI, 2001).

6.3.1.1 Calculation of EPCs for Screening-Level Direct Contact Evaluation

A potentially complete exposure route based on direct contact of sediment to receptors (benthic invertebrates and fish) exists (see Figures 6-3 and 6-4); therefore, a screening-level assessment of potential direct contact risks was conducted by comparing the maximum sediment concentrations measured in each of the sediment data sets to conservative sediment screening benchmark values. A description of the methods used to calculate sediment EPCs is provided in Section 4.1.4.

6.3.1.2 Calculation of EPCs for Screening-Level Dose Assessment

To evaluate potential risks from the potentially completed exposure pathways to higher trophic level organisms at Western Bayside and Breakwater Beach, a screening-level dose assessment was performed using a food-chain model. Dose estimates were calculated for all constituents detected in the three sediment data sets (All Years, 2005 Surface, and 2005 Subsurface) for Western Bayside and the All Years Surface data set for Breakwater Beach using the maximum sediment concentration and an exposure model that incorporated natural history information and species characteristics including diet composition, ingestion rates (IRs), body weights (BWs), and foraging ranges for each receptor.

The basic dose equation that was used to characterize exposure is as follows:

$$\text{Dose} = \{[(C_{sed} \times IR_{sed}) + (C_{prey} \times IR_{prey})] \times SUF\}/BW \qquad (6\text{-}1)$$

where

Dose	=	daily dose resulting from ingestion of sediment and prey (mg COPEC per kg BW per day)
C_{sed}	=	COPEC-specific concentration in surface sediments (mg COPEC per kg sediment)
C_{prey}	=	COPEC-specific concentration in prey (mg COPEC per kg prey)
IR_{sed}	=	estimate of receptor's daily incidental ingestion rate of surface sediments (kg sediment per day)
IR_{prey}	=	estimate of daily ingestion rate of prey (kg prey per day)
SUF	=	site use factor (unitless)
BW	=	body weight (kg).

For the SLERA, U.S. EPA and Navy guidance (U.S. EPA, 1997b; Chief of Naval Operations [CNO], 1999) was followed by biasing the exposure toward conservatism (i.e., an overestimation) of exposure and therefore, an overestimation of risk. This included using maximum surface sediment and tissue concentrations as the EPCs, and assuming 100% site use, assimilation efficiency, and bioavailability of the COPEC. Thus, if the screen concluded that negligible risk exists, then there was strong support for a no further action recommendation. It should be noted that any exceedances observed during the screening process were an indication that further evaluation may be necessary before a definitive decision can be made.

The exposure parameters that were used in the screening assessment for the scoter, double-crested cormorant, and the least tern were the same as those used at the other Alameda Point ecological risk assessments (Battelle et al., 2004a and 2005a) and were based on site-specific data, where available, or from natural history information from the literature. The rationale for the selected exposure parameters for the scoter, cormorant, and least tern are provided in detail below and summarized in Table 6-1.

Exposure Parameters for the Surf Scoter

A detailed description of the rationale used to develop each exposure parameter for the surf scoter can be found in the following sections.

Incidental Sediment Ingestion Rate (IR_{sed}): Scoters may incidentally ingest sediment while foraging for molluscs in sediment or through the small quantities of sediment that may be in the guts of prey on which they feed. Additionally, many scoter species ingest gravel to use as grit in their muscular gizzard

to help crush the shells of the bivalves they eat. Where gravel is not present, they may substitute barnacle and mollusc shells for grit (Vermeer and Bourne, 1984).
Species-specific information on the rate of incidental sediment ingestion was lacking for the surf scoter. However, a field study on the closely related white-winged scoter (*Melanitta fusca deglandi*) measured grit in the stomach contents of birds from four locations in British Columbia (Vermeer and Bourne, 1984). In this study, birds in three of the four stations had between 1.5 and 3.2 g of grit in their guts, with a mean of 2.3 g. A fourth station measured 20.8 g of grit composed mostly of gravel. The station with scoters with the most grit (Cumshewa Inlet) also was the station which had a gravel substrate.

An incidental sediment ingestion rate for the scoter of 2.3 g/day was used in the exposure model. This value is assumed to be a conservative and appropriate value for the surf scoter for the following reasons:

- White-winged scoters and surf scoters forage in similar manners, thus their exposure is likely to be similar (Vermeer and Bourne, 1984);
- The substrate at the stations where grit was measured in scoter guts between 1.5 and 3.2 g (mean = 2.3 g) are likely to be more similar to Alameda Point than the station with 20.8 g of gravel, because the sand-gravel-mud-shell hash substrate of those stations is more like the substrate off of Alameda Point than the cobble and gravel substrate of Cumshewa Inlet;
- The assumption that the mean value of 2.3 g of grit is composed solely of sediment rather than shells is a conservative assumption of sediment exposure; and,
- The assumption that the scoters eat 2.3 g of sediment every day (the daily sediment ingestion rate) is a conservative assumption because grit is likely to stay in the gizzard for more than a day before it needs to be replenished.

Exposure Point Concentration in Prey (C_{prey}): The dry weight COPEC concentration detected in *Macoma nasuta* bioaccumulation assays conducted with site sediment were used to develop an exposure point concentration in prey. *M. nasuta* EPCs can be found in Tables 4-13 and 4-15.

Prey Ingestion Rate (IR_{prey}): No empirical data were found that measured prey ingestion rates in scoters. Although field studies have been conducted that looked at stomach contents in birds (Vermeer, 1981; Vermeer and Bourne, 1984), stomach content data are unreliable indicators of a bird's daily intake (Vermeer, 1981). Therefore, the following allometric equation was used to model a daily prey ingestion rate for the scoter (Nagy et al., 2001):

$$\text{Dry Matter Intake (DMI) g/day} = a(g)^b \qquad (6\text{-}2)$$

where: a = 0.88 (marine birds)
b = 0.658 (marine birds)
g = body mass for the scoter, 1100 g.

This resulted in a modeled dry matter intake for the surf scoter of 88.25 g/day or 0.088 kg/day dry weight.

Foraging Range: No San Francisco Bay-specific home range studies have been conducted for the scoter (Takekawa, personal communication, 2001). However, a two-year radiotelemetry study conducted in the Commencement Bay Area of Puget Sound found that wintering birds stayed within 9 to 11 km of their capture location. Most birds used between two to seven locations (defined as 1 km in diameter areas) 76 to 87% of the time studied (Mahaffy et al., 1995). If one assumes that on average, 3 locations are visited the majority of the time by scoters (the mean number of locations visited during the first tracking season was 2.5 and for the second year, 3.9), the average diameter for a foraging area would be 3 km.

This would result in a foraging area (assuming that it is round) of 7 km^2. This assumes that the foraging area within this 7 km^2 area is similar to habitat near Alameda Point.

SUF: For the screening-level assessment, it was assumed that the scoter's foraging range equals the size of the site; thus, the SUF was set at one.

Body Weight: Male scoters are generally slightly heavier than females (Savard et al., 1998). To develop a reasonable average body weight, data from wintering birds measured between 1986 and 1990 were evaluated (White et al., 1987, 1988, and 1989; Urquhart and Regalado, 1991, as cited in Savard et al., 1998). The average body weight of adult males was 1,148 g ± 7 standard error (SE) (n = 22) and adult females 1,047 g ± 22 SE (n = 21), resulting in an average body weight of 1.1 kg. This is the same as the average body weight measured in scoters from British Columbia (Vermeer, 1981).

Exposure Parameters for the Least Tern

Both adult and juvenile least terns were evaluated as part of the ecological risk assessment conducted for the Seaplane Lagoon RI (Battelle et al., 2004b). In that evaluation, the models used resulted in the adult least tern having higher exposure and being a more sensitive receptor than juvenile least terns. Therefore, to provide a simpler and more conservative evaluation of the least tern, only the adult least tern was evaluated in this ecological risk assessment, and it was assumed to be a conservative surrogate for other life stages. A detailed description of the rationale used to develop each exposure parameter for the adult least tern can be found in the following sections.

IR_{sed}: Least terns feed primarily on fish in the family of silversides (Atherinae). Based on a study of dropped fish at the Alameda Point least tern colony in 2001 (Elliot and Sydeman, 2002), terns at Alameda were found to forage mainly on topsmelt (*Atherinops affinis*) and jacksmelt (*Atherinopsis californiensis*) (82% of the fish identified). Silversides tend to group in large schools and swim near the surface. Least terns, diving from above, penetrate the water surface to a depth of approximately 8 inches, rarely going deep enough to cover their wings. The tern emerges in flight, rarely alighting on the water, generally shaking a minnow held crosswise in their bill. This feeding mechanism results in the tern eating prey with virtually no contamination from suspended sediment. Therefore, the amount of sediment in the tern diet is negligible.

C_{prey}: Least terns feed on planktivorous fish which have minimal exposure to site-specific sediments at Alameda Point. Planktivorous fish were not sampled in the offshore areas of Alameda Point, but benthic forage fish were sampled within Seaplane Lagoon. BAFs developed from the forage fish data collected in Seaplane Lagoon were used to model prey concentrations for the least tern. The methodology used to develop forage fish BAFs and the EPCs generated from these BAFs can be found in Section 4.5.3 (Tables 4-17 and 4-19).

Prey Ingestion Rate: No empirical data were found that measured prey ingestion rates in least terns. Therefore, an allometric equation based on piscivorous birds with nestlings was used to model a daily prey ingestion rate for the least tern (Nagy et al., 2001):

$$\text{Dry Matter Intake (DMI) g/day} = a(g)^b \tag{6-3}$$

where: a = 0.88 (marine birds)
b = 0.658 (marine birds)
g = body mass for the least tern, 45 g.

This resulted in a modeled dry matter intake for the least tern of 10.8 g/day or 0.011 kg/day dry weight.

Foraging Range: Foraging data compiled from 10 years of foraging studies at Alameda Point were used to develop an estimate of the foraging range of the least tern (Bailey, 1984, 1985, 1986, 1988, 1990a, 1990b, 1992; Collins and Feeney, 1993, 1995) at Western Bayside and Breakwater Beach. Terns nesting at Alameda Point forage around the Point and all along the entire south shore of Alameda, from the breakwater west of Seaplane Lagoon to the Elsie B. Roemer Sanctuary and beyond to Tidal Pond at the northwest end of the Oakland Airport (Collins and Feeney, 1993) (Figure 6-5). However, the area adjacent to Alameda Point had the highest usage by terns, and the focus of all studies was on the foraging distribution around the Point.

Figure 6-5 delineates the main study areas around Alameda Point. Observers scanned the waters of each station for least terns and noted the numbers and activities of all least terns observed including foraging, transit flight, courtship, roosting, and bathing. Each observation set consisted of 8 one-minute scans at each location. Each observation set was repeated on a number of dates during the nesting season (see Collins and Feeney, 1995 for more detail). The percent of the year's total foraging time spent in any one station was then calculated as the total number of minutes that terns were observed foraging at each station over the total minutes foraging at all stations during the nesting period.

Table 6-2 summarizes 10 years of foraging data regarding where the terns feed around Alameda Point. As can be seen from Table 6-2 and Figure 6-5, the majority of the time the terns feed off the south-western side of Alameda Point in Areas 7, 8, 9, which encompass Western Bayside. Based on a 10 year mean, least terns were observed to spend approximately 57.44 % of the year's total foraging time in the area around Western Bayside (Table 6-2). Area 1 (on Figure 6-5) includes Breakwater Beach, where least terns were seen foraging approximately 3.8% of the time (Table 6-2).

SUF: For the screening-level assessment, it was assumed that the least tern's foraging range equals the size of the site resulting in a SUF of one.

Body Weight: Average body weight reported for eight least terns in the Museum of Vertebrate Zoology, University of California Berkeley (Cicero, personal communication, 1998) was used to calculate the average body weight. Weights were 43.1, 43.5, 43.6, 44.1, 44.4, 45.2, 48.6, and 50.5 g. Thus, the average was 45 g.

Exposure Parameters for the Double-Crested Cormorant

A detailed description of the rationale used to develop each exposure parameter for the double-crested cormorant can be found in the following sections.

IR_{sed}: No species-specific information on incidental sediment ingestion was found. Based on the work conducted by Ainley et al. (1981), double-crested cormorants observed in California are likely to feed on schooling prey located from the surface to near the bottom, but not on the bottom. Therefore, their potential for exposure is likely to be limited. Based on this information, an incidental sediment ingestion rate of 2% (a value commonly used for birds unlikely to ingest significant sediment; see U.S. EPA, 1993) was used. This would correspond to 0.0018 kg/day dry weight sediment ingestion.

C_{prey}: As with the least tern, BAFs developed from the forage fish data collected in Seaplane Lagoon were used to model prey concentrations for the double-crested cormorant. The methodology used to develop forage fish BAFs and the EPCs generated from these BAFs can be found in Section 4.5.3 (Tables 4-17 and 4-19).

IR_{prey}: Prey ingestion rate is affected by numerous factors including foraging effort, reproductive state of the bird, palatability, and the nutrient content of the prey species (Brugger, 1993). A variety of studies have estimated double-crested cormorant ingestion rates in the field (e.g., Schramm et al., 1984; Brugger, 1993). Hatch and Weseloh (1999) report a range of ingestion rates from 208 to 537 g/day wet weight with an average of about 320 g/day wet weight for adult birds. Brugger (1993) measured an average intake of 283 g/day wet weight when adult birds (approximately weighing 1.6 kg) were fed *ad libitum*. Brugger found that this was nearly identical to the modeled prediction derived from Nagy's (1987) allometric model for 1.5 kg seabirds. Thus, Brugger's empirical estimate of 283 g/day wet weight was selected. This can be converted into a dry weight IR_{prey} of 0.091 kg/day DW by assuming 68% water in pacific herring (U.S. EPA, 1993).

Foraging Range: Double-crested cormorant breeding at the Richmond-San Rafael Bridge foraged within 5 km of the bridge (Stenzel et al., 1995); however, there is no known rookery within 5 km of Alameda Point. No information on foraging range was found for birds that nest at the San Francisco-Oakland Bay Bridge. To develop a foraging range estimate, it was assumed that birds from the closest rookery will be visiting Alameda Point and that the foraging range should be based on the distance from the rookery to Alameda Point. The foraging distance covered by double-crested cormorant nesting at the San Francisco-Oakland Bay Bridge was calculated as the distance from the mid-point of the bridge (Yerba Buena Island) to the northwest corner of Seaplane Lagoon (foraging distance of approximately 3.3 miles or 5.3 km). Therefore, it was assumed that double-crested cormorant nesting at the San Francisco-Oakland Bay Bridge will forage 5.3 km in either direction. The total water surface area in the Bay within a circle of a radius of 5.3 km (89 km^2) was then estimated using Global Information System (GIS) and found to be 40%, resulting in a foraging range of about 35 km^2.

SUF: For the screening-level assessment, it was assumed that the double-crested cormorant's foraging range equals the size of the site, resulting in a SUF of one.

Body Weight: Hatch and Weseloh (1999) state that regional differences in double-crested cormorants' body mass are large (range of 1 to 3 kg), and that the mean mass of southeastern birds are half that of northern and western birds. Double-crested cormorants are also sexually dimorphic with males being slightly heavier than females. Dunning (1993) lists a mean body weight (for both males and females) of approximately 1.67 kg. The mean body weight given by Dunning (1.67 kg) was chosen for the following reasons: (1) no San Francisco Bay–specific studies were found, (2) the study used to develop the prey ingestion rate was based on a body weight of 1.6 kg, and (3) this is consistent with the body weight used at other Navy sites such as Mare Island (U.S. EPA, 1989c).

6.3.2 Screening-Level Effects Assessment

For the purpose of the screening-level risk estimate, conservative toxicity values were chosen that represented protective concentrations. Toxicity values for direct contact and food chain exposure were developed as discussed in the following sections.

6.3.2.1 Benthic Invertebrate Direct Contact Benchmarks

The potential effects associated with direct contact to impacted sediment were evaluated via direct contact toxicity benchmarks. Receptors at the offshore sediment sites that are potentially exposed to COPECs via direct contact pathways include sediment-associated biota (invertebrates and fish). The screening-level benchmarks, which represent conservative (i.e., protective) concentrations below which it is unlikely that adverse ecological effects will occur, are presented as the "low" benchmarks in Table 6-3. The "high" benchmarks shown in Table 6-3 represent concentrations above which risk may be probable or further evaluation is needed. The "high" values provide additional context to the conservative screening "low" benchmarks. This assessment uses ER-L values for the majority of the "low" benchmarks and ER-M values for the majority of the "high" benchmarks.

Screening-level benchmarks for benthic invertebrates in marine sediments were selected in the following order of priority from the following references:

1. Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. *Env. Management*, 19:81-97.

2. Long, E.R., and L.G. Morgan. 1991. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52, National Oceanic and Atmospheric Administration.

3. MacDonald, DD, BL Charlish, ML Haines, and K Brydges. 1994. Approach to the Assessment of Sediment Quality in Florida Coastal Waters: Volume 3-Supporting Documentation: Biological Effects Database for Sediment, Florida Department of Environmental Protection, Tallahassee, Fla. In: Jones, Suter, and Hull. *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1997 Revision*, Prepared for the U.S. Department of Energy.

4. U.S. EPA. 1989b. Evaluation of the Apparent Effects Threshold (AET) Approach for Assessing Sediment Quality, Report of the Sediment Criteria Subcommittee. Science Advisory Board. SAB-EETFC-89-027 *IN* NOAA, National Sediment Quality Survey, Appendix D, Screening Values for Chemicals Evaluated.

Long and Morgan, 1991; and Long et al., 1995

The NOAA ER-L values for estuarine and marine sediments were selected as screening-level benchmarks to evaluate potential risk to sediment-associated biota. NOAA collected sediment data from a variety of approaches and then ranked chemical concentrations associated with biological effects. ER-Ls represent the low end of the range (lower 10th percentile) of concentrations in marine sediments in which effects were observed or predicted, and are used by NOAA as the concentration below which effects would rarely be observed (Long et al., 1995; Long and Morgan, 1991).

MacDonald et al., 1994

The Florida Department of Environmental Protection (FDEP) (MacDonald et al., 1994) developed marine threshold effect levels (TELs) and probable effect levels (PELs) using the same updated and revised data set used by Long et al. (1995). However, the TELs and PELs also incorporate chemical concentrations observed or predicted to be associated with no adverse biological effects data (no effects data). Specifically, the TEL is the geometric mean of the 15th percentile in the effects data set and the 50th percentile in the no effects data set. As a result, the TEL represents the upper limit of the range of sediment contaminant concentrations dominated by no effects data. The TEL was used as the screening-level benchmark in cases where an ER-L was not available.

U.S. EPA Apparent Effect Thresholds (AETs)

AETs were used as benchmarks in situations where neither a NOAA ER-L nor a FDEP TEL was available. The AET approach uses data from matched sediment chemistry and biological effects measures and reports sediment concentrations above which statistically significant biological effects always occur. This concentration is identified as a high no effect concentration (NEC). AETs are used for preliminary comparisons to give an indication of the magnitude of contamination, but are only used in cases where other benchmarks were not available.

6.3.2.2 Food Web Toxicity Reference Values

For the purpose of evaluating the potential effects associated with the doses calculated in the exposure assessment, chemical- and receptor-specific toxicity reference values (TRVs) were compared to the calculated doses. In general, a TRV is defined as a dose level at which a particular biological effect may occur in an organism, based on laboratory toxicological investigations.

The Navy, in consultation with the U.S. EPA Region 9 Biological Technical Assistance Group (BTAG), developed effects-based TRVs. Each of these values represents a critical exposure level from a toxicological study and is supported by a published data set of toxicological exposures and effects (DON, 1998). Rather than derive a single point estimate associated with specific adverse biological effects, high and low TRVs were derived for each receptor and COPEC to reflect the variability of parameters within an ecological risk context. The low TRV is a conservative value consistent with a chronic, no observed adverse effects level (NOAEL). It represents a level at which adverse effects are not likely to occur and is used to identify sites posing little or no risk. Conversely, the high TRV is a less conservative estimator of potential adverse effects, falling approximately mid-range of all of the reported adverse effects. The high TRV represents a level at which adverse effects are highly likely to occur, helping to identify sites posing immediate risks.

In some cases, the high and low TRV were derived using a NOAEL and lowest observed adverse effects level (LOAEL) from the same study; in other cases, independent NOAELs and LOAELs were selected as the low and high TRVs, respectively. For those COPECs that did not have a Navy/BTAG TRV, the U.S. EPA's Ecological Soil Screening Levels (Eco-SSLs) (U.S. EPA, 2005b) or the Oak Ridge National Laboratory (ORNL) toxicity benchmarks (Sample et al., 1996) were used to evaluate potential toxicity with priority given to the Ecological Soil Screening Levels. In the screening-level risk estimate, only low TRVs were used. Table 6-4 summarizes the TRVs used in the ecological risk assessment and identifies the sources.

TRVs were scaled to account for differences in body weights between the organism used to establish the TRVs (high and low) and the ecological receptor chosen for evaluation. This was accomplished by using the following equation (Sample and Arenal, 1999):

$$TRV_w = TRV_l * (BW_s/BW_r)^{1-1.2} \qquad (6\text{-}4)$$

where: TRV_w = weight-adjusted TRV (mg/kg-day)
TRV_l = literature-based TRV (mg/kg-day)
BW_s = body weight of toxicity study receptor (kg)
BW_r = body weight of ecological receptor (kg).

Weight-adjusted TRVs for each ROC (surf scoter, least tern, and double-crested cormorant) are presented in Appendix E.

6.3.3 Screening-Level Risk Estimate

In the screening-level risk estimate, the exposure and effects assessments are combined to provide a quantitative estimate of the potential risks to the receptor. As described in Sections 6.3.3.1 and 6.3.3.2, estimated exposure will be calculated for each COPEC using the maximum site sediment concentrations for the direct contact exposure route and the maximum site sediment concentrations and tissue concentrations for the food-chain exposure and compared to the low toxicity benchmarks (according to the following equations):

$$HQ_{direct\ contact} = EPC_{sed}/Benchmark_{direct\ contact} \qquad (6\text{-}5)$$

$$HQ_{food\ chain} = dose/TRV \qquad (6\text{-}6)$$

As noted previously, conservative exposure parameters and toxicity values were used to calculate doses for the screening-level risk estimate. When the dose is lower than the low TRV (i.e., $HQ_{low} < 1$), it is likely that the specific COPEC presents acceptable risk. When the dose exceeds the low TRV (i.e., $HQ_{low} \geq 1$) in a screening-level ecological risk assessment, it does not necessarily indicate that there is potential risk; rather, it indicates that further evaluation is warranted in the baseline ecological risk assessment.

6.3.3.1 Direct Contact Screening-Level Risk Estimate

Screening-level risk estimates were developed for direct contact pathways for both Western Bayside and Breakwater Beach. The results of this screen are described in detail below.

Direct Contact Screening-Level Risk Estimate for Western Bayside

Table 6-5 summarizes the direct contact screening-level risk estimates for Western Bayside. As described previously, three sediment data sets were evaluated: All Years, 2005 Surface, and 2005 Subsurface. All detected compounds in sediment were screened; direct contact toxicity benchmarks exist for about 2/3 of the detected compounds (Table 6-3). In the All Years data set, seven out of nineteen constituents did not pass the conservative screen against the low toxicity value. For the 2005 Surface and Subsurface data sets, only four constituents (chromium, mercury, nickel, silver) were detected in the 2005 Surface data set at concentrations exceeding the low toxicity value, and only five were detected in the 2005 Subsurface data set. For all the data sets, eight additional constituents were carried forward because there were no benchmarks (Table 6-5). The highest magnitude, low benchmark HQs were from the All Years data set. The lowest magnitude, low benchmark HQs were from the 2005 Surface data set. In general, the 2005 Subsurface data set yielded higher magnitude, low benchmark HQs than the 2005 Surface data set, indicating that surface sediments may pose less of a potential risk to direct contact receptors than the deeper sediments.

Direct Contact Screening-Level Risk Estimate for Breakwater Beach

Table 6-6 summarizes the direct contact screening-level risk estimates for Breakwater Beach. As at Western Bayside, a number of the constituents did not pass the conservative screen against the low toxicity value for the All Years data set (1996, 1998, & 2002).

Summary of Direct Contact Screening-Level Risk Estimate

At both Western Bayside and Breakwater Beach, a number of chemicals failed the direct contact screen. Additionally, there were numerous analytes that were detected in sediment but had no benchmarks for comparison, and these constituents were carried forward to the BERA. These results indicate that the benthic invertebrate and fish AEs [AE(1) and AE(2)] should be evaluated further in the BERA.

6.3.3.2 Food Chain Screening-Level Risk Estimate

A screening-level risk estimate for indirect exposure through the food chain was developed by comparing the modeled dose based on maximum sediment exposure to the low TRV. Three receptors were evaluated (the scoter, double-crested cormorant, and the California least tern) for all three data sets (All Years, 2005 Surface, and 2005 Subsurface) at Western Bayside and for the All Years data set at Breakwater Beach. The results of the screen are described in the following subsections.

Food Chain Screening-Level Risk Estimate for Western Bayside

A summary of the HQ results for Western Bayside can be found in Table 6-7. Supporting tables that contain the full set of HQ calculations can be found in Appendix E. The double-crested cormorant was generally the least sensitive avian receptor evaluated, and the California least tern was the most sensitive receptor evaluated. The only constituent that failed the screen for the cormorant in all three data sets was lead. For the least tern, six constituents failed the screen for the All Years data set, three for the 2005 Surface data set, and four for the 2005 Subsurface data set. For the surf scoter, two constituents failed in the All Years data set, one in the 2005 Surface data set, and one in the 2005 Subsurface data set.

As with the direct contact screen, the All Years sediment data set resulted in the highest magnitude HQs. The maximum screening-level HQ was for the surf scoter exposed to lead in the sediment from the 2005 Subsurface data set (HQ_{low} = 16.6).

Nine of the detected constituents in sediment that had TRVs passed the screen in all three data sets. Eleven of the detected constituents did not have TRVs, and while they can not be evaluated quantitatively, they were carried forward into the BERA and discussed in Section 7.0. Seven of the detected constituents had low TRV HQs greater than one for at least one receptor and sediment data set and were carried forward into the BERA. These compounds are chromium, lead, mercury, selenium, zinc, Total PCB, and Total 4,4-DDx.

Food Chain Screening-Level Risk Estimate for Breakwater Beach

A summary of the HQ results for Breakwater Beach can be found in Table 6-8. Supporting tables that contain the full set of HQ calculations can be found in Appendix E. The double-crested cormorant was the least sensitive avian receptor evaluated, and the California least tern was the most sensitive receptor evaluated. The only constituents that failed the screen for the double-crested cormorant were lead, Total PCBs, and Total 4,4'-DDx. For the least tern, seven constituents failed, and for the surf scoter four constituents failed the screening-level assessment. The maximum screening-level HQ was for the least tern exposed to lead in the sediment (HQ_{low} = 16.73). Low TRV HQ exceedances for organic compounds were also low (HQ_{low}<16).

Six of the detected constituents in sediment that had TRVs passed the screen. Seven of the detected constituents did not have TRVs, and while they can not be evaluated quantitatively, they were carried forward into the BERA and discussed in Section 7.0. Nine of the detected constituents had low TRV HQs greater than one for at least one receptor and were carried forward into the BERA. These compounds are chromium, copper, lead, mercury, nickel, selenium, zinc, Total PCB, and Total 4,4-DDx.

6.3.4 Summary of Screening-Level Risk Estimate

Based on the direct contact toxicity screen, at both Western Bayside and Breakwater Beach, approximately 30% of the compounds for all three data sets (All Years, 2005 Surface, and 2005 Subsurface) for Western Bayside and approximately 50% of the constituents for the All Years data set for Breakwater Beach with direct contact benchmarks failed the screen. Additionally, there were numerous analytes that were detected in sediment and had no benchmarks for comparison. These results indicate that the benthic invertebrate and fish AEs [AE(1) and AE(2)] should be evaluated further in the BERA.

The food-chain screening-level risk estimate also indicated that a number of constituents at both Western Bayside and Breakwater Beach should be evaluated further in the BERA because they either (1) did not have toxicity reference values and could not be evaluated quantitatively, or (2) had low TRV HQs that exceeded one for at least one avian receptor and sediment data set.

6.4 Baseline Ecological Risk Assessment

In the screening-level risk estimate, potentially complete and significant exposure pathways were defined from sediment to benthic invertebrates, fish, and birds foraging at the offshore sediment sites. The results of the screen indicated that all three AEs should be evaluated further in the BERA.

In the BERA, the preliminary problem formulation was refined (Step 3A, Figure 6-1). Then measurements of exposure and effects were refined and integrated into a characterization of risk that included a comprehensive discussion of the potential uncertainties associated with the assessment. The following sections present the results of these evaluations. After defining the refined problem formulation, the BERA is organized by assessment endpoint.

6.4.1 Refined Problem Formulation

The first step of the BERA was to refine the preliminary problem formulation and CSM developed in Section 3.0. The CSMs (Figures 6-3 and 6-4) were re-evaluated in light of the outcome of the screening-level evaluation and were found to require no additional revisions. The AEs and their associated ROCs selected in the SLERA also were found to be applicable and relevant to the BERA. The only issues that required further refinement in the BERA were (1) the selection of specific measurement endpoints for the baseline assessment, and (2) a Tier 2 COPEC screen.

6.4.1.1 Selection of BERA Measurement Endpoints

While the SLERA conducted generic screens to identify what AEs might require further evaluation in the BERA, more specific MEs are required in the BERA to evaluate potential impacts to selected assessment endpoints. MEs are defined as a "measurable ecological characteristic that is related to the valued characteristic chosen as the assessment endpoint" and are a measure of biological effects (e.g., mortality, reproduction, growth) (U.S. EPA, 1997b). The AEs and their associated MEs selected for BERA are summarized below.

AE(1): Sufficient rates of survival, growth, and reproduction to sustain the benthic invertebrate community in offshore areas.

- ME(1): Toxicity to benthic invertebrates in acute and chronic sediment bioassays.

AE(2): Sufficient rates of survival, growth, and reproduction to sustain benthic-feeding and piscivorous fish communities in offshore areas.

- ME(1): Model forage fish tissue concentrations and compare to literature-based effects thresholds.

AE(3): Sufficient rates of survival, growth, and reproduction to sustain the avian community in the area. This assessment endpoint also includes the protection at the level of the individual for special-status species as appropriate.[2]

- ME(1): Estimate site-specific doses (based on measured *M. nasuta* body burdens) to benthic-invertebrate eating birds (such as the scoter) and compare to TRVs.
- ME(2): Estimate site-specific doses (based on modeled fish tissue body burdens) to the least tern and compare to TRVs.
- ME(3): Estimate site-specific doses (based on modeled fish tissue body burdens) to piscivorous birds (such as the double-crested cormorant) and compare to TRVs.

6.4.1.2 Tier 2 COPEC Selection

In the BERA, a COPEC screen was conducted to help focus the list of COPECs requiring additional evaluation by comparing site constituent sediment concentrations with ambient background concentrations to identify those constituents that are above ambient concentrations and whose presence in offshore sediments could be attributed to Navy operations. To identify those constituents that were within the range of ambient concentrations, or were elevated as compared to ambient, statistical tests were conducted. Distribution shift tests (e.g., the t-test, Gehan test, quantile test, and slippage test) were performed to compare the concentration distributions from the site with ambient data sets, following Navy guidance (DON, 2001). If one or more tests failed, then that chemical was retained for full evaluation in the BERA. For constituents where all tests passed, the chemical concentrations were found to be consistent with ambient conditions and no further evaluation in the BERA was necessary. However, to provide a comprehensive evaluation of potential risk, calculations for all chemicals (within or above ambient) are presented and discussed in the risk characterization step.

Appendix B provides a detailed description of the statistical tests that were conducted on the data. Summary tables of the statistical comparisons to ambient can be found in Section 4 (Tables 4-3 and 4-4 for Western Bayside and Tables 4-7 and 4-8 for Breakwater Beach). The ambient comparison was done separately for the All Years data set for Western Bayside and Breakwater Beach and the 2005 Surface data set for Western Bayside. Because there are no ambient data sets for deeper sediments (greater than 5 cm deep), the 2005 Subsurface data set for Western Bayside could not be statistically evaluated. Therefore, for the purposes of the ecological risk assessment, the output of the Western Bayside 2005 Surface comparison to ambient was applied to the Western Bayside 2005 Subsurface data set as a surrogate. Additionally, any constituent that had insufficient data to conduct a statistical comparison to ambient was conservatively included in the Tier 2 COPEC list.

At Western Bayside (Tables 4-3 and 4-4), the majority of inorganic constituents were not greater than ambient concentrations, while at Breakwater Beach (Tables 4-7 and 4-8), the majority of the inorganic constituents were greater than ambient concentrations. At Western Bayside, antimony, chromium, and lead exceeded ambient when historical data were included. However, inorganic concentrations in sediment collected in 2005 were present at ambient concentrations (Table 4-3). Nevertheless, antimony, chromium, and lead were included as Tier 2 COPECs and evaluated fully in the BERA for Western Bayside. For both sites, most of the pesticides could not be evaluated statistically due to the high frequency of non-detects; therefore, they were conservatively carried forward as Tier 2 COPECs.

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[2] This assessment endpoint was modified from those described in the Final Offshore Sediment Study Work Plan (Battelle et al., 2005b) by combining both the non-special and special-status avian species into one assessment endpoint.

6.4.2 Assessment of AE(1): Benthic Invertebrate Community

In the SLERA, maximum sediment concentrations were compared to direct contact toxicity benchmarks, and a number of compounds exceeded the low benchmarks, indicating the need for further evaluation. In the BERA, the benthic invertebrate community assessment endpoint was evaluated further through sediment toxicity bioassay results. The assessment of AE(1) for Western Bayside and Breakwater Beach is provided in the following sections.

6.4.2.1 Western Bayside

At Western Bayside, 7 of 19 constituents with benchmarks failed the direct contact screen (Table 6-5; All Years Surface data set). An additional eight constituents could not be assessed because benchmarks were not available. Of those constituents that failed the screening with literature benchmarks, two constituents also failed the comparison to ambient (Section 4.2.4). These compounds were antimony and chromium. Because the direct contact screen uses non-site specific, conservative, screening values to screen compounds, an exceedance of the low direct contact toxicity benchmark does not necessarily indicate that sediments are toxic to benthic invertebrates. Therefore, historical bioassays conducted in Western Bayside were used to further evaluate this endpoint.

Exposure and Effects Assessment

Toxicity tests were performed on sediment collected at 12 stations (B02 through B09 and B11 through B14) from Western Bayside in 1993/94 (Figure 3-1). Bulk sediment chemistry data for Western Bayside bioassay locations are presented in Appendix A.2. Sediment composites were obtained from the upper 5 cm of van Veen grab samples, and the following acute and chronic toxicity tests were performed:

- 10-day bulk sediment toxicity tests with the amphipod, *Eohaustorius estuarius*;
- 20-day bulk sediment toxicity (survival and growth) tests with 14- to 21-day-old polychaetes, *Neanthes arenaceodentata*; and,
- 48-hour suspended particulate phase embryo development tests using sediment elutriates and the blue mussel, *Mytilus edulis*.

These three bioassays were used as measurement endpoints (MEs) to assess effects to the benthic invertebrate community. Amphipods and polychaetes are important members of the benthic ecosystem. The amphipod and polychaete bioassays measure a response to direct sediment exposure and are highly relevant to assessing the risk to the overall benthic and benthic-supported community. The larval development bioassay provides a sensitive endpoint associated with a water-column species; the sediment-water interface exposure is particularly important for linking this response to sediment exposure.

The three bioassays have a large body of San Francisco Bay data associated with them. The San Francisco Bay Water Board has developed "reference envelope" thresholds for the amphipod survival and larval development endpoints and has published minimum significant difference (MSD) values for the polychaete survival and growth endpoints (Table 6-9) (San Francisco Bay Water Board, 1998a and 1998b). The MSD is the percentage of control response at which a significant difference from control was observed 90% of the time. A sample would be considered toxic if its result was lower than the MSD *and* significantly lower than its concurrently tested control (Student t-test, $\alpha = 0.05$). These thresholds allow identification of sites or stations that are more toxic than most San Francisco Bay reference sites. Comparison of toxicity test results relative to San Francisco Bay Water Board threshold levels is the basis for the toxicity assessment conclusions for Western Bayside.

Bioassay tests followed standard procedures recommended for amphipod (Puget Sound Estuary Program [PSEP], 1989 and 1995), polychaete (Johns and Ginn, 1990), and mussel larvae (PSEP, 1989 and 1995) tests. Inchcape Testing Services (Aquatec Biological Sciences) performed the laboratory tests. Test organisms were supplied by the following organizations: Northwest Aquatics, Yaquina Bay, Oregon (OR) (amphipods); Dr. Donald J. Reish, California State University at Long Beach (juvenile polychaetes); and Sea Farms West, Carlsbad, CA (adult mussels). Sediment collected at Western Bayside was tested during five separate solid-phase testing events, with concurrently tested control sediments for each testing event. Data on bulk pore water salinity and grain size of sediment for Western Bayside samples are presented in Table 6-10.

Amphipod Test Results

Adequate control survival (Table 6-11) and response to the reference toxicant validated the *Eohaustorius estuarius* 10-day sediment test events. Mean survival of test organisms at Western Bayside stations ranged from 64 to 98% (Table 6-11). Three Western Bayside stations (B03, B07, and B11) had survival levels less than the reference envelope tolerance limits established by the State Water Resources Control Board (San Francisco Bay Water Board, 1998a) of 69.5% of control survival ($p = 0.10$), or 68.1%.

Polychaete Test Results

The 20-day bulk sediment toxicity (survival and growth) tests using 14-21 day old polychaetes, *Neanthes arenaceodentata,* demonstrated appropriate control survival and response to the reference toxicant. Survival of test organisms at Western Bayside was 100% at all locations. Unlike tests performed for other locations at Alameda Point, these tests used five test organisms per replicate with five replicates per treatment.

Polychaete growth was reported to be statistically significantly lower than the concurrently tested control at two stations, B02 and B12 (Table 6-12). However, growth was never lower than the reference envelope defined by the San Francisco Bay Water Board (1998a,b), that is the MSD of 44% of the mean control growth (MSD = 44% of 21.83 mg/worm = 9.61 mg/worm). Therefore, the observed statistically significant decreases in growth are not considered to be biologically significant.

Mussel Larval Test Results

The 48-hour mussel embryo development test of sediment elutriates was validated by greater than 90% survival and normal development of larvae in the control (Table 6-13). Control survival was 105.9%. In the percent normal developmental control, 99.4% of larvae were normally developed. The reference toxicant median effective concentrations (EC_{50} values) for these tests were 7.8 to 10.9 µg/L of copper sulfate, all within the laboratory's reported control chart limits of approximately 3 to 12 µg/L.

Survival in mussel larvae was reported to be statistically significantly lower than control in samples from Stations B13 and B14. Although not indicated to be statistically significant, sediment from Station B05 also had low survival relative to the control. In all cases the survival was greater than 80% for this test organism. Normal development in surviving larvae was not statistically reduced in any of the sediment treatments. The normal development of larvae in surviving test organisms was greater than 90.6% in all samples. The combined endpoint of normal development of stocked larvae to the D-cell stage was greater than 80.7% in all test containers and, when normalized to control normal development, the lowest combined survival/normality endpoint was greater than 80% (80.6% in B05, Table 6-12). None of the larval endpoints fall below the detectable difference (90^{th} percentile MSD) of 80% of control for the mussel embryo/larval development test (San Francisco Bay Water Board, 1998b). Therefore, the *M. edulis* results do not indicate biologically significant effects as a result of exposure to Western Bayside sediment elutriates.

Risk Characterization

The three toxicity tests (with five different endpoints) conducted on sediments from Western Bayside (i.e., amphipod, polychaetes, and mussel larval) were all validated by acceptable control survival rates. Based on the historical toxicity tests for Western Bayside (conducted in sediment from 1993/94), sediment was generally not significantly toxic to the test species evaluated. Only three samples (from Stations B03, B07, and B11) exceeded San Francisco Bay Water Board reference envelope tolerance limits for one of the five endpoints (Table 6-14). Of those three samples, two had statistically significant differences from the control (B07, and B11). To further evaluate the limited toxicity observed in the amphipod bioassays for Western Bayside, scatter plots were prepared and coefficients of determination (r^2) were calculated. Amphipod toxicity is possibly confounded by grain size; mortality is fairly well explained by percent fines ($r^2 = 0.7$) (Figure 6-6). However, there was poor relationship between mortality and the chemical mixture in the sediment samples represented by the effects range median-quotient (ERM-Q) ($r^2 = 0.30$) (Figure 6-7). Therefore, the limited sediment toxicity observed in the amphipod bioassays is not believed to be directly associated with chemical concentrations.

It is believed that the 1993/94 bioassay results are a conservative estimator of potential toxicity because the 1993/94 study design was focused on characterizing potential sources (PRC, 1994), and these bioassay samples were biased toward the higher end of the sediment concentration range (as can be seen by the box plots of the sediment data in Appendix A). The 2005 sample design was meant to be more representative of the general sediment condition throughout the site, and for most contaminants, this data set has lower concentrations than the earlier data set (Table 4-1). In the 2005 Surface data set, no constituents exceeded the benthic high direct contact toxicity benchmark (ER-M) and ambient concentrations, reinforcing the conclusion that the limited sediment toxicity seen in 1993, if associated with historical contaminant concentrations, is unlikely to be present under current conditions or is limited in area.

6.4.2.2 Breakwater Beach

At Breakwater Beach, eight inorganic constituents and Total PAHs failed the direct contact screen (Table 6-6). Because the direct contact screen uses non-site specific, conservative, screening values to screen compounds, an exceedance of the low direct contact toxicity benchmark does not necessarily indicate that sediments are toxic to benthic invertebrates. Therefore, historical bioassays conducted in Breakwater Beach were used to further evaluate this endpoint. In addition to the historical bioassays, a supplemental amphipod bioassay study was conducted in 2002 to address the issue of potential confounding factors leading to an overestimate of benthic toxicity in historical studies. Details on the supplemental bioassay study for Breakwater Beach are presented in Appendix E.

Exposure and Effects Assessment

Toxicity tests were conducted on samples from a total of 12 sediment stations at Breakwater Beach. In 1996, a total of seven samples were collected on two separate dates, October 23 (samples BB010, BB013, BB016, and BB019) and October 28 (BB001, BB004, and BB007) (Figure 3-2). Bulk sediment chemistry data for Breakwater Beach bioassay locations are presented in Appendix A.2. Only one bioassay assessing pore water toxicity to sea urchin larvae (*Strongylocentrotus purpuratus*) was conducted using these sediment samples. In 1998, an additional five samples (BW01-BW05) were collected between October 27 and November 5. Sediment composites were obtained from the upper 5 cm of van Veen grab samples collected at each of these five locations, as well as at three reference locations, and the following tests were performed:

- Measurement of sediment pore water physiochemical characteristics
- 10-day bulk sediment toxicity tests with the amphipod, *Eohaustorius estuarius*
- 28-day bulk sediment toxicity (survival and growth) tests with the polychaete *Neanthes arenaceodentata*
- 72-hour sea urchin (*Strongylocentrotus purpuratus*) embryo development tests at the sediment-water interface (SWI).

SWI sampling protocols were used for the larval testing (4-inch-diameter cores) with accompanying overlying water for the SWI tests at these stations.

As with Western Bayside, the three bioassays were used as MEs to assess effects to the benthic invertebrate community. Each toxicological test included a control sample and a reference toxicant exposure to assess test organism sensitivity. The results of each test were statistically evaluated to determine the significance of the response to control exposures at $p \leq 0.05$. Test sediment responses were not statistically compared to reference samples, as response in reference exposures was variable and in some cases lower than that observed in test sediments. Results were compared to San Francisco Bay Water Board thresholds when available (San Francisco Bay Water Board, 1998a and 1998b) (Table 6-9). Comparison to the thresholds allows identification of sites or stations that are more toxic than most San Francisco Bay reference sites. Comparison of toxicity test results relative to San Francisco Bay Water Board threshold levels is the basis for the toxicity assessment conclusions for Breakwater Beach.

Tests followed standard procedures, recommended for the amphipod (ASTM, 1992), for the polychaete (ASTM, 1994), and sea urchin larva (Anderson et al., 1996) tests. Pacific Eco-Risk in Martinez, California performed the toxicity tests and the pore water determinations. The amphipods were supplied by Northwest Aquatics (Yaquina Bay, OR), the polychaetes by both Dr. Donald J. Reish (California State University at Long Beach) and Dr. Todd Bridges (COE Waterways Experiment Station), the sea urchins by Ken Sievers, Santa Cruz, CA). Data on bulk sediment pore water characteristics can be found in Table 6-15.

Amphipod Test Results

The amphipod tests were conducted using test organisms collected from Yaquina Bay, Oregon. An average of 98% survival in "native" control sediment validated the test. The reference toxicant exposure to nominal cadmium concentrations of 4.4 mg/L was within the laboratories control chart limits of 1.1-7.4 mg/L. Reference survival ranged from 8 to 83% for the three reference sites and 47-75% for Breakwater Beach samples (Table 6-16). Percent reburial of the surviving amphipods were >97.2%.

For the *E. estuarius* bioassays, there was a statistically significant decrease in all reference and test samples relative to control survival (Table 6-16). Additionally, two of three reference samples and four of five test samples had survival levels less than the reference envelope tolerance limits (69.5% of control survival) established by the State Water Resources Control Board (San Francisco Bay Water Board, 1998a) or 68%.

Polychaete Tests

The 28-day bulk sediment toxicity (survival and growth) tests using 14-21 day old polychaetes, *Neanthes arenaceodentata,* demonstrated appropriate control survival and response to the reference toxicant. Polychaete survival was high, exceeding 90% in most samples (Table 6-17). The exception to this was a 70% survival observed in Breakwater Beach sample BW-02. Survival of *N. arenaceodentata* in the 10 replicates comprising the BW-02 sample was variable: in seven replicates, 100% survival was observed; in the other three replicates, the single animal in each replicate was dead at the end of the test. This "all or nothing" response also occurred in single replicates for samples RL-1, RL-2, and RL-3, producing the 90% mean survival reported in Table 6-17. When compared to the San Francisco Bay Water Board reference threshold, results from all samples were greater than the survival threshold.

Polychaete growth was statistically significantly lower than control for all but three samples; one reference and two Breakwater Beach (RL-1, BW03, and BW05) samples. At Breakwater Beach, all stations had growth that was greater than the San Francisco Bay Water Board threshold (Tables 6-9 and 6-17).

Sea Urchin Larval Tests

Two sea urchin larval bioassays have been conducted at Breakwater Beach. The first bioassays were conducted in 1996 and evaluated larval fertilization success using dilutions of pore water extracted from sediment at the site. Because there is no San Francisco Bay Water Board threshold or MSD for this bioassay test or endpoint, the results of these bioassays are not easily interpreted. The second bioassays were conducted in 1998 and evaluated larval survival and development at the sediment-water interface (SWI). The following sections describe the results of these sea urchin larval tests in more detail.

Pore Water Larval Fertilization Bioassays (1996): The 1996 sea urchin larval tests were conducted using test organisms supplied by Marinus, Inc., obtained in southern California. The first set of tests failed control criteria; therefore, a second test was performed on all experiments. Control fertilization success was greater than 90% in all replicates of all seawater-only tests, thus validating the test. The reference toxicant EC_{50} for this test was 28.5 μg/L of copper sulfate, which was within the control chart limits of 3.26 to 41.61 μg/L. Reference pore waters were not included in the testing protocol. Replicate fertilization success data were not available for the pore water concentrations of each sample. The fertilization process was evaluated to determine the no observed effect concentration (NOEC), lowest observed effect concentration (LOEC), and EC_{50} for each batch of pore water dilutions (Table 6-18).

As described above, there is no San Francisco Bay Water Board threshold or MSD for this test or endpoint. However, it is believed that ammonia had an influence on echinoderm egg fertilization success in the pore water tests conducted in 1996. As seen in Table 6-18 and Figure 6-8, ammonia concentrations of approximately 0.9 to 3.6 mg/L were associated with a 50% reduction in fertilization success (horizontal lines in Figure 6-8).

Sediment-Water Interface Larval Fertilization Bioassays (1998): In the 1998 bioassays, an average of 89% of the surviving larvae developed normally in the native control sediment, thus validating the test. The percentage of surviving larvae that were normal exceeded 87% in all sediment samples from Breakwater Beach. No sample result was statistically significantly lower than the control result, and all samples were within the San Francisco Bay Water Board reference tolerance limit (Tables 6-9 and 6-19).

Risk Characterization

Table 6-20 summarizes the results of all the MEs evaluated at Breakwater Beach. A review of the bioassay data set from Breakwater Beach identified the following:

- **Bioassay testing results were inconsistent**. The strongest conclusion regarding impact to AE(1) can be made if consistent results are seen across measurement endpoints for a given location. The bioassay test results were not consistent by location. For instance, the test producing the lowest amphipod survival (8% at RL-1) produced the highest polychaete growth (11.75 mg) and non-significant response relative to control in the urchin test. Conversely, the station producing the highest amphipod survival (83% at RL-3) produced polychaete growth that was similar to Breakwater Beach sites (Table 6-20). Many factors likely influence the response of the three species, including species sensitivity to different chemicals, exposure media, exposure duration, and endpoints measured. Each test can be considered an individual line of evidence, but taken collectively, impact to AE(1) is not consistently predicted at a given location.

- **Variability was often high among replicates for a given sediment test.** In three of four toxicological tests, high variability was often observed among replicates comprising a sediment sample. In three of four toxicological tests, high variability expressed as coefficient of variation (CV) was observed.

- **Interlaboratory calibration and/or multiple testing of sediment samples suggested variable responses in bioassays.** Historical and intercalibration data suggested variation in test organism response to a given station among laboratories or over time. This variation produces uncertainty that makes decision-making difficult using these data.

Significant toxicity for the amphipod bioassays was observed at all Breakwater Beach stations in 1998, including the reference stations. However, the fact that the reference stations also exhibited significant toxicity makes it difficult to interpret the amphipod results. Detailed evaluation of the amphipod bioassays conducted at Alameda Point and Hunter's Point Shipyards in 1998 identified insufficient acclimation time as a potential confounding factor in the bioassays (Battelle et al., 1999a). For the other bioassay test species, none of the Breakwater Beach station results were below the San Francisco Bay Water Board tolerance limit.

Based on this evaluation, it is concluded that there may have been inconsistencies in the overall conduct of the tests, non-random placement of test organisms in exposure containers, or some other laboratory deviation that contributed to the high variation observed in these data. Thus, given the unusual responses observed and the uncertainties associated with the conduct of the tests, it is difficult to confidently interpret the results of the toxicological data associated with Breakwater Beach.

To address these concerns, the Navy proceeded with the Supplemental Amphipod Toxicity Study at Seaplane Lagoon and Breakwater Beach to determine whether proper acclimation procedures would improve test performance over a similar gradient of sediment COPEC concentrations as observed in the 1998 amphipod studies (Battelle, 2002).

In general, *E. estuarius* survival in Breakwater Beach sediment samples from 2002 ranged from 78% to 90%. None of the samples were below the San Francisco Bay Water Board reference envelope threshold limit, indicating that all samples were similar or less toxic than ambient. At co-located stations with amphipod results in 1998 and 2002, survival was 17% to 28% higher in 2002. Although sediment chemistry might have changed slightly between the studies, the gradient of high to low chemical concentrations was maintained.

Based on comparisons to the historical data, it appears that the majority of the difference in the amphipod survival between the 1998 and 2002 studies was due to confounding factors. In particular, careful handling of the organisms and gradual acclimation to test conditions probably had the greatest impact, since ammonia was not present at concentrations that would elicit toxicity to *E. estuarius*. The Supplemental Amphipod Toxicity Study demonstrated that careful handling of organisms and attention to monitoring ammonia levels and ammonia sensitivity of the test population resulted in improved amphipod survival in sediments that had previously been identified as toxic, but where toxicity did not appear to be related to sediment contaminant concentrations. Overall, no acute toxicity is anticipated for benthic invertebrates exposed to sediment at Breakwater Beach. Appendix E provides a detailed discussion of the 2002 amphipod bioassay results for Breakwater Beach.

6.4.3 Assessment of AE(2): Fish Community

In the SLERA, maximum sediment concentrations were compared to direct contact toxicity benchmarks, and a number of compounds exceeded the low benchmarks, indicating the need for further evaluation (Tables 6-5 and 6-6). In the BERA, the fish community assessment endpoint was evaluated further by comparing modeled fish tissue concentrations to protective tissue benchmarks. Results of this comparison are discussed in the following sections.

6.4.3.1 Western Bayside

The exposure and effects assessment and the risk characterization for the fish community AEs are provided below for Western Bayside.

Exposure and Effects Assessment

Forage fish tissue concentrations at Western Bayside were modeled from 95% UCL sediment concentrations developed for each of the three data sets at Western Bayside from BAFs that were developed from whole-body fish tissue and sediment concentrations from Seaplane Lagoon, as described in Section 4.5.3. Forage fish BAFs were developed from species collected from Seaplane Lagoon including Pacific staghorn sculpin, yellowfin goby, chameleon goby, English sole, speckled sanddab, starry flounder, plainfin midshipman, white croaker, and several varieties of surfperch. These species are considered conservative estimators of exposure to the fish community because they have a high affinity with sediment and small home ranges. The concentrations of constituents detected in the forage fish were assumed to be dependent on site-specific bioavailability from Seaplane Lagoon sediments and to represent uptake under equilibrium conditions. BAFs developed from these data are considered a relevant way to estimate fish tissue concentrations using sediment data gathered from other areas offshore of Alameda Point. Table 4-17 summarizes the 95% UCL sediment concentrations, BAFs, and modeled fish tissue concentrations for constituents detected at Western Bayside in the All Years sediment data set, the 2005 Surface Data set, and the 2005 Subsurface data set.

To evaluate effects, ecotoxicity reference values (ERVs) based on effects-based critical body residues (i.e., critical tissue values) developed for the U.S. Navy for the BERA at Pearl Harbor were used (DON, 2002). Although the fish ERVs are draft values currently under review by U.S. EPA Region 9 and the Navy, they are not expected to change significantly (Yoshioka, personal communication, 2005). However, updates may be incorporated as the Pearl Harbor ERVs are finalized. It is assumed that the ERVs, although developed for comparison to Pearl Harbor's tropical species, can be considered as surrogates for general bottom fish in the BERA for Alameda Point. This is a reasonable assumption because the ERVs are based on a review of available studies from commonly recognized databases such as the Environmental Residue and Effects Database (ERED) (COE and U.S. EPA, 2003) or U.S. EPA's ECOTOX (Jarvinen and Ankley, 1999) and included species in temperate as well as tropical systems.

Both bounded NOAEL and LOAEL ERVs were developed and are summarized in Table 6-21. Modeled tissue concentrations below the bounded NOAEL ERV were considered acceptable. Modeled tissue concentrations above the LOAEL ERVs were of concern because they indicated the potential for adverse effects to the fish community. ERVs were not available for nickel or aldrin. A bounded NOAEL ERV was available for silver, but a LOAEL was not.

Risk Characterization

The modeled 95% UCL concentrations of constituents in fish tissue from Western Bayside were compared to the fish ERV values, and HQs were developed. These results are presented in Table 6-22. None of the modeled fish tissue concentrations exceeded the NOAEL or LOAEL ERV for any constituent. PAHs were conservatively evaluated by comparing summed high (HPAH), low (LPAH), and Total PAHs to the most conservative benchmark for an individual compound within each sum (e.g., the benchmark for benzo(a)pyrene compared to Total PAH concentration). Based on these results, it is concluded that risk to the fish community at Western Bayside is *de minimus*.

6.4.3.2 Breakwater Beach

The exposure and effects assessment and the risk characterization for the fish community AEs are provided below for Breakwater Beach.

Exposure and Effects Assessment

The exposure and effects assessment for Breakwater Beach was conducted as described for Western Bayside. The 95% UCL sediment concentrations for the sediment data set was used to model fish tissue concentrations are summarized in Table 4-19, and the ERVs are listed in Table 6-21.

Risk Characterization

The modeled 95% UCL concentrations of constituents in fish tissue from Breakwater Beach were compared to the fish ERV values, and HQs were developed. These results are presented in Table 6-23. None of the modeled fish tissue concentrations exceeded the NOAEL or LOAEL ERV for any constituent. Based on these results, it is concluded that risk to the fish community at Breakwater Beach is *de minimus*.

6.4.4 Assessment of AE(3): Avian Community

In the screening-level risk estimate, a number of constituents were above the low toxicity reference value (TRV) requiring further evaluation for the surf scoter, least tern, and the double-crested cormorant. In the BERA, the exposure and effects assessment was further refined and risk characterized for the three receptors at Western Bayside and Breakwater Beach. The baseline evaluation for the avian community assessment endpoint is discussed in more detail in the following sections.

6.4.4.1 Western Bayside

The screening-level risk estimate at Western Bayside identified that seven of the detected constituents had low TRV HQs greater than one for at least one receptor and sediment data set (Table 6-7). These compounds are chromium, lead, mercury, selenium, zinc, Total PCB, and Total DDx. Additionally, 11 of the detected constituents did not have TRVs and, while they can not be evaluated quantitatively, they were carried forward into the BERA.

Exposure and Effects Assessment

As in the SLERA, exposure to the three avian receptors was estimated using a dose model. Refinements were made to the conservative screening model used in the SLERA to better estimate the potential values for adverse effects based on site-specific information rather than conservative defaults values. The specific refinements implemented are discussed in more detail below.

Sediment Concentrations

EPCs in the BERA were refined using an estimate of the central tendency of the sediment and tissue concentrations for each offshore area. The central tendency was estimated as the 95% UCL of the mean. The BERA EPC chosen was either the 95% UCL or the maximum sediment or tissue concentration (*M. nasuta*), whichever was lower (in accordance with U.S. EPA, 2002). A detailed description of the development of 95% UCLs can be found in Section 4.5.1. For modeled prey concentrations (fish), uptake factors were applied to the central tendency of the sediment concentrations for each offshore area. At Western Bayside, sediment and *M. nasuta* EPCs are summarized in Tables 4-11 and 4-13, respectively.

In the SLERA, all dose calculations were conducted using a SUF of 1.0, assuming that a receptor feeds within each offshore area 100% of the time. It is unlikely that any of the identified bird species forage 100% of their time at each area given the available foraging area of the San Francisco Bay. Therefore, estimates were made to characterize avian exposure in each area based on their known or expected foraging range in San Francisco Bay as follows.

Surf Scoter

As discussed in Section 6.3.1.2, data are not available to define the foraging area for the scoter in San Francisco Bay. Data from a two-year study of wintering birds in the Commencement Bay area of Puget Sound estimated the foraging range of the scoter at about 7 km^2 (Mahaffy et al., 1995). For the BERA, the area of Western Bayside was divided by the foraging area of the scoter to develop a SUF. Western Bayside is about 144.72 acres or 0.585 km^2. Thus, the SUF is 0.585 km^2/7 km^2 or 0.084 (or 8.4%) as defined spatially.

Least Tern

Based on an average of over 10 years of study at Alameda Point (see Table 6-2), least terns are seen foraging at Western Bayside approximately 57.4 % of the time. Thus, an SUF of 0.574 was used.

Double-Crested Cormorant

As described in Section 6.3.1.2, studies conducted in San Francisco Bay were used to estimate a foraging range for the double-crested cormorant of 35 km^2, or about 8,642 acres. The area of Western Bayside is 144.72 acres or 0.585 km^2. The SUF for the double-crested cormorant foraging at Western Bayside is estimated to be 0.0167 or 1.67%.

Estimated foraging ranges and SUFs for Western Bayside are summarized in Table 6-1. The SUF estimates for Western Bayside suggest that the surf scoter and the double-crested cormorant are likely to be using this site for only a small fraction of their dietary needs. However, because of the uncertainty inherent in these estimates, a range of SUFs was evaluated for these two receptors. The SUF was reduced incrementally; 1, 0.5, 0.25, and the estimated SUF for these two receptors based on the literature or site-specific studies were evaluated. For the least tern, SUFs of one and 0.57 were evaluated.

To calculate a comprehensive evaluation of risk, as the SUF was reduced, the remaining (i.e., non-site) exposure was assumed to be at ambient concentrations as defined at reference locations in San Francisco Bay. This scenario assumes that each ROC's entire exposure occurs within San Francisco Bay, and does not account for seasonal migration. For comparison, a SUF of 0 (100% ambient exposure) also is presented. To represent exposure at ambient reference locations, the following data sets were used to develop reference exposure point concentrations for sediment, invertebrate, and forage fish tissue.

Reference Sediment

To characterize exposure to ambient background concentrations of San Francisco Bay sediment, reference station sediment data collected from five 1998 reference sites (Alameda Point field sampling effort [TtEMI, 1998b]), and from five 2001 reference sites used in the Hunters Point Shipyards Parcel F validation study (Battelle et al., 2005a) were used (see discussion of reference data in Section 4.1.2).

Reference Invertebrate Tissue

To characterize exposure to ambient background concentrations of invertebrate prey, *M. nasuta* exposed in the laboratory for 28 days to sediment from ten reference station locations in San Francisco Bay was used. Five of the reference bioaccumulation assays were conducted in 1998 as part of the Seaplane Lagoon field sampling effort (TtEMI, 1998b) and the remaining five stations were collected as part of the Hunters Point Shipyards validation study (Battelle et al., 2005a). The 1998 bioaccumulation results are based on a single tissue sample exposed to sediment from that station. This resulted in five *M. nasuta* ambient samples from 1998. In 2001, five replicate test chambers containing *M. nasuta* were exposed to sediments from five stations, which resulted in 25 reference site tissue results. Between the two studies there are 30 ambient *M. nasuta* samples.

Reference Forage Fish

While reference forage fish tissue were collected at two reference locations in support of the Seaplane Lagoon RI (Battelle et al., 2004b), reference fish tissue concentrations used in the dose equation were modeled to be consistent with the site estimates. Forage fish tissue concentrations were modeled similarly to site data by multiplying the fish BAF by the reference sediment EPC for each constituent.

Refinement of Dose Calculation

The refined dose was calculated using the following equation:

$$Dose = \frac{\{[(C_{sed\text{-}site} * IR_{sed}) + (C_{prey\text{-}site} * IR_{prey})] \times SUF_{site}\} + \{[(C_{sed\text{-}ref} * IR_{sed}) + (C_{prey\text{-}ref} * IR_{prey})] * SUF_{ref}\}}{BW} \quad (6\text{-}7)$$

where
$C_{sed\text{-}site}$ = COPEC-specific EPC[3] in surface sediments (milligrams COPEC per kilograms sediment) for the site.
$C_{sed\text{-}ref}$ = COPEC-specific EPC in surface sediments (milligrams COPEC per kilograms sediment) for all reference values.
$C_{prey\text{-}site}$ = COPEC-specific EPC in prey tissue (milligrams COPEC per kilograms dry weight tissue) for the site.
$C_{prey\text{-}ref}$ = COPEC-specific EPC in prey tissue (milligrams COPEC per kilograms dry weight tissue) for all reference values.
SUF_{site} = site use factor (unitless) for the site.
SUF_{ref} = 1 - site use factor for the site.

[3] The EPC is the lesser of the 95% UCL on the mean or the maximum detected concentration in each medium.

IR_{sed}	=	estimate of receptor's daily incidental ingestion rate of surface sediments (kg sediment per day).
IR_{prey}	=	estimate of daily ingestion rate of prey (kg prey per day).
BW	=	body weight (kg).

Toxicological effects to the ROCs were assessed using the same weight-adjusted avian TRVs developed for the SLERA (see Appendix E). In the BERA, both comparisons to low and high TRVs were conducted.

Risk Characterization

Potential risks to the avian assessment endpoint at Western Bayside are discussed by receptor.

Surf Scoter

A summary of the HQs calculated for the surf scoter based on a range of SUFs and the refined doses for the All Years, 2005 Surface, and 2005 Subsurface data sets are presented in Tables 6-24 through 6-26. Supporting tables can be found in Appendix E. At 100% site use, there were no constituents that had NOAEL-based HQs that exceeded one and were statistically significantly greater than ambient concentrations for any of the three data sets.

Least Tern

A summary of the HQs calculated for the least tern based on a range of SUFs and the refined doses for the All Years, 2005 Surface, and 2005 Subsurface data sets are presented in Tables 6-27 through 6-29. Supporting tables can be found in Appendix E. For the least tern at 100% site use, the dose from only one COPEC exceeded the NOAEL (HQ > 1), and was present at concentrations exceeding background (Section 4.1). This constituent was Total 4,4-DDx for the All Years data set. The magnitude of the HQ was low (HQ<3). For the 2005 data sets, there were no constituents that were greater than ambient concentrations and had a low TRV HQ that exceeded one at an SUF of 0.574. None of the data sets had a high TRV HQ greater than one.

Double-Crested-Cormorant

A summary of the HQs calculated for the double-crested cormorant based on a range of SUFs and the refined doses for the All Years, 2005 Surface, and 2005 Subsurface data sets are presented in Tables 6-30 through 6-32. Supporting tables can be found in Appendix E. For the double-crested cormorant at all the SUFs evaluated, there were no constituents that were greater than ambient concentrations and had low TRV HQs that exceeded one in any of the data sets.

6.4.4.2 Breakwater Beach

The screening-level risk estimate at Breakwater Beach identified nine of the detected constituents with low TRV HQs greater than one for at least one receptor for the sediment data set (Table 6-8). These compounds include chromium, copper, lead, mercury, nickel, selenium, zinc, Total PCB, and Total 4,4'-DDx. Additionally, seven of the detected constituents did not have TRVs. Although they cannot be evaluated quantitatively, they were qualitatively evaluated in the BERA.

Exposure and Effects Assessment

As previously described, sediment and tissue concentrations in the BERA were refined by using an estimate of the central tendency. The BERA EPC chosen was either the 95% UCL or the maximum, whichever was lower for both the sediment and invertebrate tissue (in accordance with U.S. EPA, 2002). A detailed description of the development of 95% UCLs can be found in Section 4.1.4. For modeled prey concentrations (fish), uptake factors were applied to the central tendency of the sediment concentrations for each offshore area. For Breakwater Beach, sediment and *M. nasuta* EPCs are summarized in Tables 4-12 and 4-15.

In the SLERA, all dose calculations were conducted using a SUF of one, assuming that a receptor feeds within each offshore area 100% of the time. It is unlikely that any of the bird species identified forage 100% of their time at each area given the available foraging area of the San Francisco Bay. Therefore, estimates were made to characterize avian exposure in each area based on their known or expected foraging range in San Francisco Bay.

Surf Scoter

As discussed in Section 6.3.1.2, data are not available to define the foraging area for the scoter in San Francisco Bay. Data from a two-year study of wintering birds in the Commencement Bay area of Puget Sound estimated the foraging range of the scoter at about 7 km^2 (Mahaffy et al., 1995). For the BERA, the area of Breakwater Beach was divided by the foraging area of the scoter to develop an SUF. Breakwater Beach is about 79.69 acres or 0.322 km^2. Thus, the SUF is 0.322 km^2/7 km^2 or 0.046 (or 4.6%).

Least Tern

Based on an average of over 10 years of study at Alameda Point (see Section 6.3.1.2), least tern are seen foraging at Breakwater Beach approximately 3.8% of the time. Thus, a SUF of 0.038 was used.

Double-Crested Cormorant

As described in Section 6.3.1.2, studies conducted in San Francisco Bay were used to estimate a foraging range for the double-crested cormorant of 35 km^2, or about 8,642 acres. The area of Breakwater Beach is 79.69 acres or 0.322 km^2. The SUF for the double-crested cormorant foraging at Breakwater Beach is estimated to be 0.0092 or 0.92%.

Estimated foraging ranges and SUFs for Breakwater Beach are summarized in Table 6-1. The SUF estimates for Breakwater Beach suggest that the ROCs are likely to be using the site for only a small fraction of their dietary needs. As with the evaluation for Western Bayside, a range of SUFs was evaluated. The SUF was reduced incrementally; 1, 0.5, 0.25, and the estimated actual SUF for the ROC based on the literature or site-specific information were evaluated. To calculate a comprehensive evaluation of risk, the remaining (i.e., non-site) exposure was assumed to be at reference concentrations as the SUF was reduced. This scenario assumes that each ROC's entire exposure occurs within San Francisco Bay, and does not account for seasonal migration. For comparison, an SUF of 0 (100% reference exposure) is also presented and is based on the same reference data set used in the Western Bayside evaluation.

Risk Characterization

Potential risks to the avian assessment endpoint at Breakwater Beach are discussed by receptor.

Surf Scoter

A summary of the HQs calculated for the surf scoter based on a range of SUFs and the refined doses for the Breakwater Beach data set are presented in Table 6-33. Supporting tables can be found in Appendix E.

At 100% site use, chromium, lead, and selenium are the only constituents that had a low TRV HQ that exceeded one and were greater than ambient concentrations. Lead and selenium also had low TRV HQs that exceeded one and ambient concentrations at a SUF of 0.046. Both lead and selenium had slightly increasing HQ values as the SUF decreased to 100% reference, thus indicating that reference doses were slightly greater than the site doses. No HQs based on the high TRV exceeded one.

Least Tern

A summary of the HQs calculated for the least tern based on a range of SUFs and the refined doses for the Breakwater Beach data set are presented in Table 6-34. Supporting tables can be found in Appendix E.

When 100% site use was assumed, lead, selenium, Total PCB, and Total 4,4-DDx are the only constituents that had a low TRV exceeding one and were greater than ambient concentrations. Lead, mercury, selenium, and Total 4,4-DDx also had low TRV HQs that exceeded one at a SUF of 0.038 and 0.0. Because the HQs for lead, mercury, selenium, and Total 4,4-DDx did not substantially vary between a SUF of 1 and 0, it is concluded that the potential risk to the least tern at Breakwater Beach is similar to ambient conditions for these compounds. No constituent had a high TRV HQ that exceeded one.

Double-Crested Cormorant

A summary of the HQs calculated for the double-crested cormorant based on a range of SUFs and the refined EPCs for the Breakwater Beach data set are presented in Table 6-35. Supporting tables can be found in Appendix E.

For the double-crested cormorant, only lead had a low TRV HQ greater than one for the Breakwater Beach data set. All other analytes had HQs less than one. Lead also had a low TRV HQ that exceeded one and the ambient concentrations at a SUF of 0.006. The HQ for lead at the literature-based SUF was nearly equal to the HQ for the reference sites. No high TRV HQ exceeded one.

6.5 Summary

To evaluate potential risks to ecological receptors, a tiered process was used that encompasses the eight steps identified in the U.S. EPA and Navy guidelines. In the first tier, the problem formulation was developed which included a development of the CSM and identification of COPECs, then a screening-level risk estimate was conducted using conservative screening parameters. If AEs failed the screen, then the exposure assumptions and COPEC selection were refined further in the BERA. Risks were then characterized for each of the endpoints.

In the screening-level risk estimate for Western Bayside and Breakwater Beach, both a direct contact toxicity screen and a screening-level risk estimate were conducted. Based on the direct contact toxicity screen at both Western Bayside and Breakwater Beach, a number of the compounds for all three Western Bayside data sets (All Years, 2005 Surface, and 2005 Subsurface) and Breakwater Beach data set with direct contact benchmarks failed the screen. Additionally, there were numerous analytes that were detected in sediment but had no benchmarks for comparison. Thus, the benthic invertebrate and fish AEs [AE(1) and AE(2)] were recommended for further evaluation in the BERA.

The food-chain screening-level risk estimate also indicated that a number of constituents at both Western Bayside and Breakwater Beach should be evaluated further in the BERA because they either (1) did not have toxicity reference values but could be evaluated quantitatively, or (2) had low TRV HQs that exceeded one for at least one avian receptor and sediment data set.

In the BERA, the preliminary problem formulation was refined, and then measurements of exposure and effects were refined and integrated into a characterization of risk that included a comprehensive discussion of the potential uncertainties associated with the assessment (Section 7.0). The AEs and their associated MEs selected for the BERA are summarized below.

AE(1): Sufficient rates of survival, growth, and reproduction to sustain the benthic invertebrate community in offshore areas.

- ME(1): Toxicity to benthic invertebrates in acute and chronic sediment bioassays.

AE(2): Sufficient rates of survival, growth, and reproduction to sustain benthic-feeding and piscivorous fish communities in offshore areas.

- ME(1): Model forage fish tissue concentrations and compare to literature-based effects thresholds.

AE(3): Sufficient rates of survival, growth, and reproduction to sustain the avian community in the area. This assessment endpoint also includes the protection at the level of the individual for special-status species as appropriate.[4]

- ME(1): Estimate site-specific doses (based on measured *M. nasuta* body burdens) to benthic-invertebrate eating birds (such as the scoter) and compare to TRVs.
- ME(2): Estimate site-specific doses (based on modeled fish tissue body burdens) to the least tern and compare to TRVs.
- ME(3): Estimate site-specific doses (based on modeled fish tissue body burdens) to piscivorous birds (such as the double-crested cormorant) and compare to TRVs.

In the BERA, a COPEC screen was conducted that was used to help focus the list of COPECs requiring additional evaluation by comparing site constituent sediment concentrations with ambient background concentrations to identify those constituents that are above ambient concentrations and whose presence in offshore sediments could be attributed to Navy operations. At Western Bayside, the majority of inorganic constituents were not greater than ambient concentrations when all the All Years data set was evaluated, and there were no exceedances of ambient levels for the 2005 data sets. In contrast, at Breakwater Beach, the majority of the inorganic constituents were greater than ambient concentrations. Most of the pesticides were not evaluated statistically due to the high frequency of non-detects; therefore, they were conservatively carried forward as Tier 2 COPECs.

Assessment of the Benthic Invertebrate Community AE(1)

Based on the historical toxicity tests for Western Bayside (conducted in sediment from 1993/94), sediment was generally not significantly toxic to the test species evaluated. Three samples had statistically significant differences from the control and exceeded San Francisco Bay Water Board reference envelope tolerance limits for one of the five endpoints: amphipod survival. Based on regression analysis, the mortality observed in the amphipod bioassay was associated with grain size but not with ERM-Qs. In the 2005 Surface data set, no constituent exceeded the high direct contact toxicity

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[4] This assessment endpoint was modified from those described in the Final Offshore Sediment Study Work Plan (Battelle et al., 2005b) by combining both the non-special and special-status avian species into one assessment endpoint.

benchmark (ER-M) and was greater than ambient, reinforcing the conclusion that the sediment toxicity seen in 1993 was likely to have been associated with grain size or other confounding factors.

Breakwater Beach had significant amphipod toxicity (as compared to the San Francisco Bay Water Board tolerance limits) at most stations in 1998. Significant toxicity was observed at all but one Breakwater Beach station, and two out of three reference stations, for the amphipod bioassays. However, the fact that the reference stations also exhibited significant toxicity makes it difficult to interpret the amphipod results. For the other bioassays, none of the stations showed significant toxicity. It was concluded that there may have been inconsistencies in the overall conduct of the tests, non-random placement of test organisms in exposure containers, high concentrations of ammonia, or some other laboratory deviation that contributed to the high variation observed in these data. Similar confounding issues have been identified at other locations at Alameda Point (Battelle et al., 1999a; Battelle et al., 2004b).

Although it is difficult to interpret the 1998 sediment bioassays, other lines of evidence support the conclusion that current conditions at Breakwater Beach associated with historical Navy activities are unlikely to result in toxicity to benthic organisms. First, only two constituents exceeded the ER-M in the historical sediment chemistry data, and these constituents were not present at concentrations that exceeded background. Second, more recent amphipod bioassay results (2002) are available, and those results did not replicate the toxicity observed in 1998 (Appendix E). The difference in observed toxicity between the 1998 study and the 2002 study is believed to result from careful handling of organisms and improved control of ammonia as a potential confounding factor.

Assessment of the Fish Community AE(2)

The modeled 95% UCL concentrations of constituents in fish tissue from Western Bayside and Breakwater Beach were compared to the fish ERV values to calculate HQs. For both sites none of the modeled fish tissue concentrations exceeded the NOAEL or LOAEL ERV for any constituent. Based on these results, it is concluded that risk to the fish community at Western Bayside and Breakwater Beach is *de minimus*.

Assessment of the Avian Community AE(3)

Potential risks to the surf scoter, the double-crested cormorant, and the least tern were evaluated at both Western Bayside and Breakwater Beach. Using best available estimates of foraging ranges, constituents that exceeded background did not pose a significant risk (HQ>1) to avian receptors. While some constituents did have HQs that exceeded one for more conservative SUF assumptions, risks to the three receptors were deemed acceptable at Western Bayside and Breakwater Beach as described below.

Western Bayside

Surf Scoter: There were no constituents found that had low TRV HQs greater than one and were also statistically greater than the ambient concentration, thus risk to the surf scoter was deemed acceptable.

Least Tern: Total 4,4-DDx had a HQ that exceeded one (when SUF of one was assumed) and had a concentration greater than ambient in the All Years data set. Risks to the least tern were deemed acceptable for the following reasons:

- The low TRV HQ for Total 4,4-DDx is greater than one and above ambient concentrations in only the data set that includes historical data, and the magnitude of the exceedance is less than 3. The high TRV HQ that includes historical data does not exceed one in any of the data sets.

- Current conditions in the sediment layer to which receptors are most exposed (2005 Surface data set) show potential risk to Total 4,4-DDx consistent with ambient conditions.

Double-Crested Cormorant: There were no constituents found that had low TRV HQs greater than one that were also statistically greater than the ambient concentration; thus, risk to the double-crested cormorant was deemed acceptable.

Breakwater Beach

Surf Scoter: Chromium, lead, and selenium were the only COPECs that had low TRV HQs that exceeded one and had concentrations greater than ambient in the Breakwater Beach data set. Risks to the surf scoter were deemed acceptable for the following reasons:

Chromium

- At an SUF more representative of the surf scoters usage of the site, the HQ exceedance is well below one (HQ=0.67), and much lower than one when compared to the high TRV.

Lead

- The HQ based on the low TRV for lead remained fairly constant (between 9.4 and 10.1), even when the SUF was varied. This is because the EPC calculated for the site and the reference area were very similar. Thus, while lead concentrations at Breakwater Beach were found to be statistically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

- The high TRV HQ for lead did not exceed one for any SUF.

Selenium

- The HQ based on the low TRV for selenium remained fairly constant (between 1.05 and 1.47), even when the SUF was varied. Thus, while selenium concentrations at Breakwater Beach were found to be statistically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

- The high TRV HQ for selenium did not exceed one for any SUF.

Least Tern: Lead, mercury, selenium, Total PCB, and Total 4,4-DDx had low TRV HQs that exceeded one and had concentrations greater than ambient in the Breakwater Beach data set for the least tern. Risks to the least tern were deemed acceptable for the following reasons:

Lead

- The HQ based on the low TRV for lead remained fairly constant (between 8.21 and 9.55), even when the SUF was varied. Thus, while lead concentrations at Breakwater Beach were found to be statistically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

- The high TRV for lead did not exceed one for any SUF.

Mercury

- At a SUF on one, the HQ based on the low TRV was less than one. At lower SUFs, where the contribution from ambient exposure increased, the low TRV based HQ also increased to slightly above one.

- The HQ based on the low TRV for mercury for the data set remained fairly constant (between 0.95 and 1.18), even when the SUF was varied. Thus, while mercury concentrations at Breakwater Beach were found to be statis¬tically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

Selenium

- The HQ based on the low TRV for selenium for the data set remained fairly constant (between 1.7 and 2.4), even when the SUF was varied. Thus, while selenium concentrations at Breakwater Beach were found to be statistically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

- The high TRV for selenium did not exceed one for any SUF.

Total PCBs

- Total PCBs had a low TRV HQ less than four in the Breakwater Beach data set at a SUF of one. No high TRV HQ exceeded one.

- At a SUF more representative of least tern usage, the low TRV HQ for Total PCB was well below one (0.299).

Total 4,4-DDx

- Total DDx had a low TRV HQ only slightly above 1 (HQ<1.9) in the Breakwater Beach data set at a SUF of one. No high TRV HQ exceeded one.

- At a SUF more representative of least tern usage, the HQ associated with Total 4,4-DDx was slightly above one (HQ = 1.29) and comparable to the HQ for reference exposure (HQ = 1.27).

Double-Crested Cormorant: Lead is the only COPEC that had a low TRV HQ that exceeded one and had concentrations greater than ambient in the Breakwater Beach data set for the double-crested cormorant. Risks to the cormorant were deemed acceptable for the following reasons:

Lead

- The HQ based on the low TRV for lead for the Breakwater Beach data set remained fairly constant (between 1.9 and 2.2), even when the SUF was varied. Thus, while lead concentrations at Breakwater Beach were found to be statistically greater than ambient concentrations, the potential risk from ambient exposure is similar to site risk.

- The high TRV HQ for lead did not exceed one for any SUF.

6.6 Conclusion

Based on the baseline evaluations conducted for Western Bayside and Breakwater Beach, it is recommended that no action is required at either site based on ecological risk considerations.

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7.0 UNCERTAINTY

This section discusses the uncertainty associated with the data and methods used in this SI Report. Uncertainty can be introduced through the use of assumptions in the absence of scientific data or through interpretation of the data itself. This analysis will focus on uncertainty associated with analytical data collected to support the SI Report, and the ecological and human health risk assessments. As these risk assessments are intended and designed to assess potential risks associated with "current conditions," uncertainty associated with the application of the conclusions presented in this report to future conditions is outside of the scope of these assessments, and is therefore not expressly addressed in the uncertainty analysis. However, uncertainty exists as to the relevance and/or applicability of this assessment to potential future site conditions, particularly if significant physical alteration and/or a change in the use of the site are involved.

7.1 Uncertainty Associated with Sediment and Tissue Chemistry Results

As previously discussed, data from multiple years of sampling were combined to help understand the nature and extent of contaminants in both Western Bayside and Breakwater Beach. For each data set, we can identify uncertainties associated with both the sampling and measurement components of the overall study. For example, how well the sampling design in a given year captured both small and large scale variability, how well the sampling methods capture physical specimens that retain the properties of the sediment in the field, and how much variability and bias is introduced through the laboratory sample preparation, and analysis. Whenever data sets from multiple sampling events are combined, additional questions arise related to comparability of the samples taken, how well each individual data set represents the area of interest, and the significance of sources of interlaboratory error and temporal variability.

Based on the systematic sampling design used during the 2005 sampling event at Western Bayside, as well as the total number of samples collected at that time, the 2005 data set alone is representative of the area. In addition, based on a review of the analytical results, the 2005 analytical results have lower detection limits, better coverage of sediments at depth, and are more representative of existing conditions than historical data collected up to 13 years ago. Adding historical data to the 2005 data changes the systematic representation, by adding stations that were placed near outfalls in Western Bayside, and by adding samples that were biased toward coarse-grained sediments along the Western Bayside shoreline in 1996. However, the older data sets were included to increase sample support because the data sets were believed to be comparable to a certain degree.

The only Western Bayside data that were not included in the development of EPCs were those collected for the express purpose of characterizing the offshore area at the Skeet Range (IR Site 29). As previously discussed, concentrations of lead and PAHs in the sediments adjacent to the Skeet Range were evaluated in a separate investigation (Battelle et al., 2004a). To support the RI, numerous sediment samples were collected from the area to assess the distribution of lead shot and clay target fragments. As described in Section 4.1.1, these data were not included in the investigation for Western Bayside. Inclusion of these data would have resulted in different conclusions for the background comparison tests. Specifically, when the Skeet Range data is excluded from the comparison, lead does not fail any of the background distribution shift tests and, therefore, is not considered statistically elevated at Western Bayside compared to San Francisco Bay background. If these data are included, lead is determined to be significantly different from background in the "all data, all years" comparison, because it fails the quantile test. Similarly, all PAHs fail the background distribution shift test when Skeet Range data are included. Only four PAH compounds fail distribution shift tests when the Skeet Range PAHs are excluded from the All Years data, but nine PAH compounds do not have sufficient numbers of detected values to conduct the background distribution shift tests.

No data were collected in 2005 in Breakwater Beach. Data collected in 1996 provide the greatest spatial representation (surface and depth) of Breakwater Beach, but may be less representative of current conditions than more recent data. The data collected in 1998 and 2002 represent the same five sampling locations, and do not include information on chemical concentrations at depth.

To help evaluate differences across multiple years, the box plots and bubble plots are useful tools. Many analytes appear at first glance to be higher in the older data sets. However, upon closer inspection, it becomes evident that the higher values are often associated with detection limits. Also, the apparently higher concentrations of inorganic constituents in Western Bayside in the 1993 data and lower concentrations in 1996 data appear to be an artifact of the spatial placement of the samples. Samples in 1993/94 are further offshore than in other years and have a high percentage of fine-grained material. Samples in 1996 were very close to shore and were comprised mainly of coarse-grained material. With the exception of samples placed to characterize "beach" areas, samples collected in 2005 were purposely moved slightly further offshore to avoid the coarse-grained sediments sampled in 1996.

PCBs are a good example of how elevated detection limits affect our understanding of historical concentrations. The 1993/94 and 1996 samples were analyzed for seven Aroclors. Total PCBs can be estimated by summing the individual values; however, given that many individual Aroclors were not detected, questions arise as to how best to represent Total PCBs. This is not really an issue for the more recent data set where congeners were measured and the detection limits were quite low. However, there is a five-fold difference between the concentration of Total PCBs calculated using one-half the reported DL for non-detected Aroclors and the concentration of Total PCBs calculated by summing the detected Aroclors only. Even using zeros for non-detects, older Aroclor data were much higher than totals in more recent years. It is difficult to determine what the primary causes of the differences are and whether the older data are truly representative of historical concentrations or not.

Tissue data in Western Bayside were also subject to increased uncertainties due to elevated detection limits for some organic constituents. Western Bayside bioassays were conducted in 1993/94, and used tissue chemistry analysis methods with higher detection limits than the 1998 study in Breakwater Beach. DDx compounds were the only organic constituents detected in Western Bayside *M. nasuta* tissue. As discussed in detail in Section 4, attempts to model tissue values using BAFs based on 1998 tissue and sediment data collected around Alameda and current sediment chemistry values were made. While this approach is preferable to trying to make inferences from the reported detection limits in 1993/94, the approach introduces other uncertainties. For example, for some constituents the BAFs themselves were highly uncertain due to non-detected tissue results and the lack of a strong pattern between sediment and tissue values. In addition, the BAFs represent sediments in multiple regions of Alameda, and site-specific conditions may be such that constituents are more or less bioavailable than elsewhere in Alameda. It is unknown whether the resulting modeled tissue values are under- or overestimates of the true concentration. Similarly, forage fish BAFs generated using Seaplane Lagoon data introduce uncertainties about potential site-specific differences and lack of fidelity to a particular location.

As stated in Section 4.1.1, field duplicate samples were excluded from the data analysis. Field duplicates are collected for use as quality assessment samples, and including them in the calculation of EPCs for the risk assessment is not technically appropriate. Incorporating all field duplicates in the calculation of the EPCs results in the locations where the duplicates were taken being weighed heavier than other locations, and the assumption of a representative random sample would be violated. For example, if duplicates were collected at locations where low chemical concentrations were present, the estimate of the EPC would be reduced, and vice-versa. To evaluate the potential impact of the field duplicates on the analysis, a review was performed to compare the results of field samples and field duplicates. In general, very few field duplicates were collected. In 1993/94, when triplicates were collected, no one sample was identified as a primary vs. duplicate sample. Therefore, the average of the three observations was used. No duplicates were collected in 1996, 1998, nor 2002. In 2005, duplicate cores were collected at two locations in Western Bayside (WBC-11 and WBC-14). Further analysis of duplicates collected in 2005 was performed to evaluate whether the small scale/measurement error represented by the duplicate measurements warranted further consideration in the risk assessment. The analysis confirmed that duplicate variability would have a minimal impact on concentration variability and would unlikely change the calculated EPCs or subsequent risk analyses.

7.2 Uncertainties Associated with EPC Calculations

Exposure point concentrations (EPCs) were calculated using the latest U.S. EPA Guidance on calculating the 95% UCL on the arithmetic average, as described in Section 4. The underlying assumption in calculation of a mean, or the UCL on a mean, is that the samples are random, independent samples, and that they are representative of the area over which exposure may occur. Because the samples collected in Western Bayside and Breakwater Beach represent three different sample collection events with distinctly different objectives, these assumptions are not met. Early samples were biased toward areas where contamination was expected, such as outfalls. No effort was made to weight samples, or otherwise account for this bias. The end result of using such data is that the EPCs are conservative and likely overestimate the true mean of the respective Western Bayside and Breakwater Beach areas.

Other factors contributing to the EPC uncertainty include detection limits, associated rules for using censored data, and selection of the appropriate distribution for the statistical calculation. EPCs were calculated by substituting one-half the reported detection limit for non-detects (except for Total PCBs where zero was substituted for non-detects). This method was employed because it provides a simple and appropriate estimate of the actual result. Nonetheless, for constituents where there were a considerable number of non-detects, the EPC has a greater degree of uncertainty. The statistical tests and logic included in EPA's Exposure Point Guidance (U.S. EPA, 2002) were applied. This resulted in calculating either a normal, lognormal, or non-parametric EPC. Further, tests of skewness resulted in the use of different formulas for calculation of log normal EPCs. By following these guidelines, the best performing statistical approach was applied, lowering uncertainty associated with the resulting value.

EPCs were calculated as stated above for sediments, *M nasuta* tissue, and forage fish. By far, the largest data set was for sediment. Given that uncertainty is greatly affected by sample size, the degree of confidence would be greatest for sediment, then *M nasuta*, and finally forage fish. It is true, however, that the sediment EPCs were based on data collected over a long period of time, and therefore the temporal variation, as well as possible differences in analytical methods, are factors that could be offsetting the gains associated with larger sample size.

7.3 Uncertainty Associated with the Human Health Risk Assessment

The sources of uncertainty associated with the human health risk assessment and the potential biases in the results are presented in this section. Quantitative risk estimates derived in this assessment are conditional (contingent estimates), and include a number of assumptions about local fishing practice, land use, exposure, and toxicity. None of the risk estimates can be separated from these assumptions of the uncertainties inherent in the numerical values of the parameters used to calculate them. The calculated cancer risks and non-cancer hazards are contingent on the assumptions and parameter assignments made in deriving them and should not be interpreted as "true" risk.

7.3.1 Data Evaluation

With respect to the data evaluation, the major uncertainties include:

- The use of *M. nasuta* as surrogates to simulate tissue concentrations representative of other shellfish species is conservative because *M. nasuta* are aggressive filter feeders, particularly in comparison to the mussels typically found at Western Bayside and Breakwater Beach that passively filter the water rather than the sediment to obtain their food. As a result, it is probable that measured or estimated *M. nasuta* tissue concentrations would overestimate concentrations in the mussels for many chemicals. This assumption is supported by tissue chemistry data from mussels (*Mytilus californianus*) collected from Breakwater Beach in 1996. Concentrations of inorganic constituents in the indigenous mussels were generally lower than *M. nasuta* tissue concentrations at Breakwater Beach and reference locations (Battelle et al., 2000). Most organic compounds were not detected in either *M. nasuta* or *M. californianus* tissue samples; however, detection limits were relatively high, especially the field collected *M. californianus* tissue samples.

- The measured *M. nasuta* data are from a limited sample set (n = 5-7) that is eight years old. Most chemicals were not detected in the *M. nasuta* tissue, especially those from Western Bayside; therefore, EPCs for these chemicals were modeled from sediment concentrations using estimated BAFs. These BAFs are not based on site-specific data and, therefore, it is uncertain whether they accurately portray the relationship between sediment and tissue concentrations.

- PCB congener data was not available during all sampling years at Western Bayside and Breakwater Beach. In 1993/94 and 1996, Aroclors were analyzed instead of PCB congeners. Therefore, Total Aroclor data were used to calculate Total PCB risk at Western Bayside and Breakwater Beach.

- One-half the reported detection limit was used for chemicals not detected in tissue, except for Total Aroclors, where zero was used for non-detects because of high detections limits.

- Estimates of exposure point concentrations were based on either the maximum measured tissue concentrations or 95% UCL of the mean, whichever was lower, and were assumed to stay constant indefinitely without allowing for decreasing concentrations over time. For environmental media with time-varying chemical concentrations, the current levels found in sediment may not accurately characterize long-term exposure conditions.

- As previously discussed, the All Years data set for Western Bayside did not include data collected as part of the Skeet Range (IR Site 29) investigation, which characterized the spatial extent of lead shot distribution and determined the source of the PAH contamination within the Skeet Range (Battelle et al., 2004a). Including the Skeet Range PAH data in the human health risk calculations would have slightly increased (by 1.63 times) the estimated human health risk from exposure to PAHs compared to risks calculated without these data (Tables 7-1 through 7-6). In addition, benzo(b)fluoranthene was the only additional PAH that exceeded the target cancer risk level of 1×10^{-6} when the Skeet Range data were included in the risk calculations, indicating that exclusion of the Skeet Range PAH data from human health risk calculations at Western Bayside does not significantly underestimate the risk from exposure to PAHs.

- In 1996, radium was analyzed in sediment core samples at four locations (BB003, BB004, BB006, and BB009) at Breakwater Beach, with BB003 analyzed only at depth. The depth intervals of the cores were approximately 0 – 2.7 ft and 2.7 – 5.3 ft. Radium-226 was detected in three of the six samples, and radium-228 was detected in two of the six samples. These data are considered unfit for use in estimating potential risk to human health from radium due to the deep surface layer interval and because it was not possible to calculate a 95% UCL for these data due to the small sample size, low detection rates, and high DLs; therefore, they were excluded from the analysis. There are no known sources of radium to this area; thus , this is unlikely to significantly underestimate risk from radium. The Final Offshore Sediment Study Work Plan (Battelle et al., 2005b) for the 2005 sampling event did not include radium sampling at

Breakwater Beach because the regulatory agencies concurred that no additional sampling was required. Radium sampling was not conducted in 2005 because the low 1996 radium results in combination with the lack of a transport pathway for radium isotopes from the NAS Alameda buildings where radium dial painting historically occurred to Breakwater Beach resulted in the decision that radium is not a COPC for Breakwater Beach.

7.3.2 Exposure Assessment

Quantitative estimates of dose were derived to estimate the RME and CTE exposures and are conditional estimates that include numerous assumptions on the type of exposures that may occur, the frequency and duration of those exposures, and the concentration of constituents at the point of exposure. Hypothetical future residential exposures were evaluated to comply with regulatory policy, but it is unclear if they will actually occur with any regularity at the site. Relatively conservative assumptions are used for many of the exposure parameters, resulting in a compounding effect. No attempt is made in this assessment to quantify this compounding effect on the cumulative risk estimates. The overall approach was intended to provide a conservative estimate of dose to avoid underestimating the risk. The following discussion provides a list of uncertainties associated with the exposure assessment.

- This evaluation assumes that the consumption rate of shellfish is five percent the rate of consumption of finfish as defined by SFEI (2002). Due to the lack of data about shellfish consumption rates for San Francisco Bay, the accuracy of this assumption is unknown. However, based on data indicating that shellfish consumption comprises less than five percent of total seafood consumption among San Francisco anglers (Wong, 1997), it is likely to overestimate actual consumption rates.
- The RME and CTE exposure scenarios assumed that a majority of shellfish consumers are adults. However, the recent study performed by SFEI (2002) reported that about 13% of the participants stated that children under the age of six eat the locally caught fish and 2% reported that pregnant or breastfeeding women eat a portion of their catch. Given that only 5% of the overall seafood consumption among San Francisco Bay anglers is comprised of shellfish (Wong, 1997), it can be assumed that less than 1% of Bay-area children under the age of six (i.e., 0.65%) and of pregnant or breastfeeding women (0.1%) may be consuming shellfish from San Francisco Bay. Overall, there is a low probability of child exposure (with respect to intake amounts and frequency of exposure); as such, this pathway is considered a potentially complete but insignificant route. Risks to children associated with direct contact to sediment during collection of shellfish and consumption of forage fish were estimated to ensure that evaluation of the adult receptor was adequately protective. Comparison of adult and child hazards (Tables 5-17 thru 5-20) and risks (Tables 5-21 thru 5-24) associated with consumption of forage fish shows that the adult RME scenario is indeed protective of children.
- Children can be exposed to contaminants both *in utero* and during nursing. These contaminants are stored in the mother's body and can be released during pregnancy through transplacental transfer. Due to its high fat content, human milk can accumulate a large amount of lipophilic contaminants, such as PCBs, pesticides, and mercury, which can then be transferred to children through breastfeeding. There are several sources of uncertainty associated with the maternal transfer of contaminants to nursing infants, including (1) the metabolism of contaminants from food in humans and the types and concentrations of contaminants present in breast milk, (2) the levels of contaminant exposure in nursing women from consumption of fish and of those in the general population, and (3) the susceptibility of nursing infants to the health effects of these contaminants. This exposure pathway was not considered in the human health risk assessment, and therefore, risks to nursing infants may be underestimated.
- Direct contact with surface water is a complete but insignificant exposure pathway. Surface water is not a media of concern based on non-detect results from surface water sampled at Western Bayside for organics and dissolved metals and other criteria (Section 2.3.1.3).

Therefore, exclusion of this exposure pathway is unlikely to impact the total quantitative estimate of risk and hazard at these sites.

- Currently, no data are available for quantifying incidental ingestion of sediment associated with typical recreational exposures. Data available for residential soil exposures include exposures associated with indoor dust, as well as those associated with outdoor activities; therefore, values calculated for occupation exposures were applied (U.S. EPA, 2002). Although less conservative than the residential values, it is likely that these values overestimate actual incidental ingestion exposures to sediments because they include exposure to soil particles in airborne dust which is assumed to be a very minimal pathway for sediments.
- The assumption that shellfish are harvested and consumed was based only on the presence of these species at the site rather than on any evidence that such activities actually occur.
- It is assumed that the future use of Western Bayside and Breakwater Beach will be similar to current conditions.
- Indirect exposures via fishing may occur at Western Bayside and Breakwater Beach; however, risk associated with ingestion of local catch is a bay-wide issue that has resulted in health advisories on all major waterways in the San Francisco Bay Area (SFEI, 1999). Most of the sport fish targeted by recreational anglers have extensive foraging ranges; therefore, it is difficult to distinguish the risk attributable to the site from risk associated with other point sources along Western Bayside and Breakwater Beach or bay-wide conditions.
- The RME was estimated for all pathways quantified. Parameters were selected to estimate the reasonable maximum; however, the use of multiple conservative parameters in this scenario can result in an estimate of intake above the 95% UCL. The average or central tendency exposure was presented as well, which likely represents a more typical level of risk to future residents.
- An exposure duration of 9 years was assumed for the CTE. Because children, as well as adults, may have access to site-related contamination through direct contact, an age-adjusted exposure duration of 30 years was assumed for the RME. The approach used age-adjusted intake rates that took into account the difference in daily intake rate, body weight, and exposure durations for children from 1 to 6 years old and adults from 7 to 31 years old. The lower intake rate and body weight produces a more conservative risk estimate than if adult-only exposures were assumed. These assumptions were based on recommendations by U.S. EPA (1989a) and represent upper bound and average residential tenure at a single location.

7.3.3 Toxicity Assessment

Use of RfDs and carcinogenic slope factors in the toxicity assessment is subject to several types of uncertainties. The studies from which these values are derived typically involve conditions that are not identical to the type of exposures of interest involving chemicals in the environment. Extrapolations from animal experiments are frequently required to derive toxicity values for use in risk assessments. Uncertainty can be associated with extrapolations involving:

- High experimental doses to low environmental exposure doses;
- Animals used in experimental studies to humans;
- Short-term exposure to long-term exposure;
- Homogenous animal populations to heterogeneous human populations, which can vary substantially in their individual dose-response actions; and
- Continuous experimental doses to intermittent human exposures.

The methods used to derive slope factors and RfDs are intended to be conservative in recognition of these types of uncertainties. For noncarcinogens, uncertainty factors are applied to either the NOAEL or

LOAEL; for carcinogens, a slope factor at the estimated 95% UCL is used. The resulting toxicity values used in quantitative risk assessment calculations are likely to overestimate the true risk. Carcinogenic slope factors assume no threshold for effects; if thresholds for carcinogenicity exist, the true risks could be zero at sufficiently low doses.

The overall quality of the toxicology database also contains numerous uncertainties resulting from:

- Lack of consistency between different experimental studies;
- Limited numbers of studies;
- Lack of available information on multiple species and multiple exposure routes;
- Lack of demonstrable dose-response relationships;
- Lack of plausible biological mechanisms of action; and
- Lack of direct evidence of effects in humans.

For ingestion exposures, the bioavailability of chemicals in the human body is assumed to be the same as that in the study organism from which toxicity factors were developed. Most toxicity parameter values are calculated to be used with administered rather than absorbed doses; however, these values still reflect the bioavailability of the as-administered form. Risks are likely to be overestimated if chemical bioavailability from environmental media is less than that from the experimentally administered doses in toxicological studies.

- For this assessment, the more conservative toxicity criteria from either U.S. EPA's Integrated Risk Information System (IRIS) or California EPA's BEHHA Cancer Potency Values were applied.
- The toxicity of each chemical was assumed to be additive. Interactions between chemicals, synergism or antagonisms, were not accounted for due to the limited toxicity information on these types of interactions. Interactions could result in overestimates or underestimates of risk.
- The calculation of risk and hazard from arsenic in fish and shellfish tissue assumes that all of the arsenic present is the more toxic inorganic form because the toxicity information used is for the more toxic form. However, the United States Department of Food and Agriculture (DFA, 1993) and the Agency for Toxic Substances and Disease Registry (ATSDR, 2005) both acknowledge that most of the arsenic present in fish and shellfish tissue is the less toxic, organic form, and that inorganic arsenic accounts for only about 10% of the arsenic in these tissues. Therefore, the conservative assumptions of the human health risk assessment likely overestimate the actual risk and hazard of arsenic by 90%.

7.3.4 Risk Characterization

Uncertainties associated with estimating cancer risk and non-cancer hazard are primarily those that have been built into the process of deriving the estimates, as previously discussed.

- Multiple constituent, multiple pathway risks were evaluated assuming additivity of risks. Possible interactions (antagonistic or synergistic) that could occur among the various constituents present are not included in this assessment. Interactions could result in over or underestimates of the risks. The risks for individual constituents also were not segregated by mode of action, type of outcome, or severity.
- Risks associated with exposure to lead were not quantified in this assessment due to the lack of specific algorithms in U.S. EPA and DTSC lead uptake models to adequately model this exposure pathway. Lead concentrations at Western Bayside and Breakwater Beach were found to be

similar to or less than those measured at the reference stations. In addition, the lead concentrations were significantly below U.S. EPA Region 9 PRGs for soil, which are based on exposure to children through ingestion, dermal contact, and inhalation of lead from soil, groundwater, and air. Based on these comparisons, levels of lead at Western Bayside and Breakwater Beach do not appear to be significant. Uncertainties associated with estimating cancer risk and non-cancer hazard are primarily those that have been built into the process of deriving the estimates, as previously discussed.

- Estimates of radiogenic cancer risk are subject to numerous sources of uncertainty, including the biokinetic and dosimetric models, organ-specific risk factors, mortality and survival characteristics of the population, and the extrapolation of epidemiological data for populations exposed to high radiation does to much lower levels characteristic of environmental exposures (U.S. EPA, 2006b).

In summary, because the majority of assumptions regarding EPCs and contact rates made in this assessment are conservative and tend to overestimate exposure and risk, the incremental risks to the defined receptor populations from exposure to chemicals of concern at Western Bayside and Breakwater Beach are likely to be overestimated.

7.4 Uncertainty Associated with the Ecological Risk Assessment

The sources of uncertainty associated with the ecological risk assessment and the potential biases in the results are presented in this section.

The screening-level risk evaluation was designed to be conservative, addressing uncertainty by over-estimating risk. This approach results in increased confidence that contaminated sites will not be removed from further assessment when, in fact, unacceptable risk actually exists.

Results of the screening-level risk evaluation were used to focus the baseline risk evaluation, which more accurately reflects exposure of receptors to site contaminants. As with all ecological assessments, there are inherent uncertainties. These uncertainties are directly relevant to the utility of the conclusions of this ecological risk assessment in a risk-management decision-making context. The uncertainties identified should therefore be considered prior to, and during, the risk management phase. The discussion of identified uncertainties, as they apply to the baseline risk evaluations, is discussed in more detail in the following sections.

7.4.1 Uncertainty Associated with the Problem Formulation

A number of areas of uncertainty were identified in the problem formulation portion of the ecological risk assessment. The most significant sources of uncertainty are discussed in more detail below.

7.4.1.1 Development of Conceptual Site Model

This ecological risk assessment focused on exposure related to direct contact to contaminated sediments and indirectly through the food chain. These were found to be the most significant, potentially complete pathways. Exposure via contact with surface water was considered insignificant. If contaminated sediment at the site acts as a source to surface water and significant exposure does exist via ingestion or direct contact with contaminated bay waters, then the exposure modeled in the ecological risk assessment was underestimated. This is unlikely to be a significant source of uncertainty, as tidal flushing and currents in the bay would act to quickly dilute these concentrations.

The ecological risk assessments were conducted on a site-specific basis. However, ecological receptors with large home ranges, such as the least term, may be exposed to chemicals originating at more than one offshore site at Alameda, as well as other areas of greater or lesser concentrations. This may result in an over- or under-estimate of exposure and, therefore, risk.

7.4.1.2 Use of 95% UCLs to Develop Exposure Estimates

95% UCLs were used to estimate exposure to sediment and prey in the baseline risk assessment. While there were generally sufficient sample sizes in the sediment data to develop a 95% UCL, the prey data sets based on *M. nasuta* bioaccumulation data had very small sample sizes. With small sample sizes, it is difficult to accurately develop EPCs. Therefore in many instances, the maximum concentration was used. It is unknown whether the maximum concentration over or underestimated the EPC.

7.4.1.3 Breakwater Beach Sediment Data set

Breakwater Beach sediment values are based on data collected during 1996, 1998, and 2002. There are generally good detection limits and sufficient sample sizes for statistical analysis for the historical data at Breakwater Beach. However with the lack of more recent sediment data, it is unknown how the historical data may over- or underestimate the current sediment concentrations at Breakwater Beach.

7.4.1.4 Estimation of Prey Concentrations

Each species absorbs, metabolizes, and excretes COPECs in a different manner, affecting the transfer of COPECs to higher-level receptors. In the screening-level and baseline ecological risk assessments, either laboratory-exposed and depurated *M. nasuta* data or modeled shellfish data were used as a surrogate for prey for the surf scoter; fish tissue concentrations were modeled for the least tern and double-crested cormorant. The uncertainties associated with prey concentrations used in these calculations are discussed below.

Benthic Invertebrate Prey

The laboratory *M. nasuta* data were historical data collected during the 1990s (1993/94 for Western Bayside and 1998 for Breakwater Beach). For both Western Bayside and Breakwater Beach, the data sets were small ($n<10$), and for the 1993/94 Western Bayside data set, many of the organic compounds had high detection limits. To address this issue of non-detects, BAFs were also used to estimate *M. nasuta* tissue concentrations based on measured sediment data. Because these BAFs are not site-specific, their accuracy in predicting tissue concentrations for the sites is uncertain. Because modeled tissue concentrations were used in those cases where the measured *M. nasuta* tissue concentrations were non-detect, uncertainty associated with the detection limits was mitigated.

Another source of uncertainty associated with the benthic invertebrate prey exposure estimates relates to the type of prey evaluated. For this ecological risk assessment, bivalve prey was used to represent all invertebrate prey. However, bivalves are just one type of invertebrate prey consumed by diving ducks. It is unknown how representative bivalve tissue concentrations are of invertebrate prey in general. This could result in an over-or underestimation of prey body burdens.

Fish Tissue Concentrations

No fish were collected in support of this ecological risk assessment. Fish tissue concentrations that were used to evaluate risk to fish and to evaluate risk to fish-eating birds were modeled using BAFs. BAFs were developed from forage fish collected in support of the Seaplane Lagoon RI (Battelle, et al., 2004b).

There are a number of ways that BAFs for forage fish can be developed. To develop a conservative estimate of uptake into fish tissue, conservative BAFs were chosen.

7.4.1.5 Selection of Assessment and Measurement Endpoints

Assessment endpoints were chosen to protect the major ecological components of the offshore food web. Marine mammals were not selected as AEs based on their minimal exposure to contaminated sediments and prey at the site. However, if marine mammals are exposed more significantly to site contaminants, then this ecological risk assessment would have underestimated the potential risk to these species. This is unlikely to be a significant source of uncertainty, since bioaccumulative compounds that are more likely to impact higher trophic-level species, such as the harbor seal, are not detected at levels appreciably higher than background (see Appendix A) at Western Bayside or Breakwater Beach. Additionally, other piscivorous species, such as the least tern and the double-crested cormorant, were evaluated and were not found to be at risk.

7.4.1.6 Comparison of Site Sediment Concentrations to Ambient Concentrations

Site sediment concentrations were statistically compared to ambient sediment concentrations within San Francisco Bay. Many of the pesticides did not have enough detects in the ambient data set to perform statistical comparison. This uncertainty was addressed conservatively by identifying these pesticides as Tier 2 COPECs.

Ambient concentrations in San Francisco Bay are limited to the surface sediment layer (0-5 cm) only. Because there was no subsurface ambient data set with which to compare the 2005 Western Bayside subsurface data set, it was assumed that the ambient comparison to the 2005 Western Bayside Surface data set was relevant to deeper sediment data. This is likely to be a conservative comparison since ambient concentrations of many contaminants at depth in San Francisco Bay are likely to be higher than at the surface.

7.4.2 Uncertainty Associated with the Exposure Assessment

A number of areas of uncertainty were identified in the exposure assessment of the ecological risk assessment. The most significant sources of uncertainty are discussed in more detail below.

7.4.2.1 Treatment of Non-Detected Individual Constituents for Summed Parameters

Some constituents (PAHs, PCBs, and DDx) were evaluated only as summed parameters. For the PCBs, when an individual PCB congener or Aroclor was not detected, it was not incorporated into the sum (i.e., the value assigned to the individual constituent was zero). Treating non-detected constituents of sums as zero may result in an underestimate of exposure, as there may be concentrations of these compounds at levels below the detection limit. By assuming a concentration of zero for non-detects, the summed concentrations estimated may be lower than the true concentration in the sediment. PCBs were summed in this manner because of detection limit issues associated with the Aroclor data collected in 1993/94 at Western Bayside. For all later data sets from Western Bayside and Breakwater Beach, the summing of Total PCBs using zero for non-detected concentrations had an insignificant impact on the estimated total concentration, as the detection limits in the most recent data sets are very low. Therefore, while the 1993/94 Total PCB concentrations from Western Bayside may be underestimated, in general and for the more relevant current data set, the use of zero in the sums does not impact the estimate.

For all other summed constituents at Western Bayside and Breakwater Beach (PAHs and DDx), non-detected values were treated as one-half the DL. Thus, the total concentration estimated for these summed parameters was not likely to significantly over- or underestimate the total concentration.

7.4.2.2 Species-Specific Exposure Parameters

Several species-specific exposure parameters were considered when calculating dose estimates for receptors of concern. For example, the relationship between a receptor's size and the magnitude of its dietary intake is a critical determinant of exposure. Although literature data exist from which information such as body weight, daily ingestion rate, and dietary composition can be estimated, there is a natural level of variability in these parameters within a population of receptors that cannot be expressed through the selection of a single representative value. In addition, uncertainty is inherent in the use of literature-derived values to calculate potential risks to ROCs specific to Alameda Point rather than relying on more site- or region-specific data. Although literature-derived exposure parameters are based on the most relevant scientific data available, using these parameters will add an unknown degree of uncertainty that may overestimate or underestimate exposure at Western Bayside and Breakwater Beach.

To evaluate the potential impact of this variability in exposure parameters, a sensitivity analysis was performed that determined that the three most sensitive parameters influencing the magnitude of the HQs are: (1) TRVs, (2) bioaccumulation factors, and (3) SUFs (Battelle et al., 1999b). Although body weights, ingestion rates, and diet are components of the dose assessment, it was determined that the range of these values found within the literature would not significantly impact the dose to the receptors. Therefore, it was determined that uncertainties associated with body weights, ingestion rates, and diet are minor, and that further investigations to refine them would not make major contributions to refining the dose assessment.

In accordance with the Work Plan, the ingestion rates for the surf scoter and the least tern were calculated using the field metabolic rate (FMR) method described in Nagy et al., 1999, rather than the regression equations for dry matter intake reported in Nagy, 2001. The 2001 regression equations predict somewhat higher ingestion rates (5% higher for the surf scoter and 17% higher for the least tern). However, it should be noted that species-specific intake rates, where known, deviate from the rates predicted by the regression equations by an average of 21% for Charadriiformes, and 28% for marine birds. Therefore, using regression equations to directly predict the dry matter intake would not be expected to significantly increase the certainty in the ecological risk assessment.

7.4.3 Uncertainty Associated with the Effects Assessment

A number of areas of uncertainty were identified in the effects assessment of the ecological risk assessment. The most significant sources of uncertainty are discussed in more detail below.

7.4.3.1 Invertebrate Bioassays

The three historical toxicity tests conducted on sediments from Western Bayside (i.e., amphipod, polychaetes, and mussel larval) were all validated by acceptable control survival rates. There is some evidence that grain size influenced the outcome of the amphipod bioassay tests.

A review of the historical bioassay data set (1996 and 1998) from Breakwater Beach identified the following:

- **Bioassay testing results were inconsistent**. The strongest conclusion regarding impact to AE(1) can be made if consistent results are seen across measurement endpoints for a given location. The bioassay test results were not consistent by location. For instance, the test producing the lowest amphipod survival (8% at RL-1) produced the highest polychaete growth (11.75 mg) and non-significant response relative to control in the urchin test. Conversely, the station producing the highest amphipod survival (83% at RL-3) produced polychaete growth that was similar to impacted sites (Table 6-14). Many factors likely influence the response of the three species, including species sensitivity to different chemicals, exposure media, exposure duration, and endpoints measured. Each test can be considered an individual line of evidence, but taken collectively, impact to AE(1) is not consistently predicted at a given location.
- **Variability was often high among replicates for a given sediment test.** In the amphipod survival, and polychaete growth and survival tests, high variability was often observed among replicates comprising a sediment sample. In these toxicological tests, high variability expressed as CV was observed. The experimental design associated with the polychaete test explained the majority of the variation in test organism survival (one polychaete per replicate; eight replicates). This does not explain the variability observed in amphipod survival or polychaete growth tests.
- **Interlaboratory calibration and/or multiple testing of sediment samples suggested variable responses in bioassays.** Historical and intercalibration data suggested variation in test organism response to a given station among laboratories or over time. This variation produces uncertainty that makes decision-making difficult using these data.

7.4.3.2 Fish Ecotoxicity Reference Values

Potential bioaccumulation risk to fish at the site was assessed by comparing modeled COPEC concentrations based on BAFs to ERVs for bottom-feeding fish developed by the Navy for Pearl Harbor (DON, 2002). These ERVs are currently under review by U.S. EPA Region 9. ERVs were applied as critical tissue values (CTVs) for effects-based whole-body concentrations of COPECs in fish. This "critical body residue" approach is a method for assessing exposure estimates for COPECs in aquatic receptors in complex and/or multistep food web systems (e.g., McCarty and Mackay, 1993; Jarvinen and Ankley, 1999; Jarvinen et al., 1998; Field, 1998, as cited in DON, 2002). As noted by U.S. EPA (1998b): "Biomarkers and tissue residues are particularly useful when exposures across many pathways must be integrated and when site-specific factors influence bioavailability."

Jarvinen and Ankley (1999, cited in DON, 2002) note that applying a tissue-residue-based approach to assess risk includes an implicit consideration of system-specific differences in contaminant bioavailability, assimilation, and metabolism differences among species or life stages, and multiple routes of exposure. This, in turn, reduces the uncertainty that would result from extrapolation among systems and species and from laboratory-based toxicology studies to the field. Also, as discussed by McCarty and Mackay (1993, cited in DON, 2002), an approach based on tissue residues aids in integrating uncertainties associated with contaminant accumulation kinetics because it reduces the confounding effect of different exposure durations (e.g., between laboratory and field studies).

Sources of uncertainty in this approach include:

- Appropriate tissues may not be sampled or analyzed to relate the COPEC concentration to its mechanisms or modes of action (e.g., evaluation of the effects of cationic metals may require analysis of tissues or sites of action [e.g., gill] that are not routinely sampled) (Wood et al., 1997, cited in DON, 2002). Some chemicals are metabolized to more active forms, such that measured concentrations of the parent compound might not provide a direct indicator of toxicity. Even in these cases, although the parent chemical may not be mechanistically related to toxicity, there may be consistent, correlative relationships between concentration of the parent compound and observed adverse effects.

- The kinetics of uptake and depuration influence biological responses. For example, in several of the selected case studies cited in DON (2002), short-term exposure of animals to relatively high chemical concentrations that elicited toxicity resulted in lower tissue chemical concentrations than those observed in longer-term exposures to lower chemical concentrations that did not result in adverse effects. Hence, the use of effects/tissue-residue relationships in an ecological risk assessment must incorporate consideration of contaminant toxicokinetics.

7.4.3.3 Avian Toxicity Reference Values

Quantity and Quality of Toxicity Data Used to Derive the Avian Toxicity Reference Values

Uncertainties are associated with the quantity and variable quality of literature-derived toxicity data. In order to reduce the uncertainties in the toxicity data set, most TRVs were generated from three widely accepted sources: Biological Technical Assistance Group (BTAG) (DTSC, 2001), U.S. EPA's Ecological Soil Screening (Eco-SSL) documents (U.S. EPA, 2005c), and Oak Ridge National Laboratory (ORNL) (Sample et al., 1996). It is recognized, however, that new toxicity data are generated every year, and not all of the relevant information may be included in the sources used for this risk assessment. In addition, TRVs for the same chemical can vary significantly among these sources. For example, the avian NOAEL for lead in the Eco-SSL is 1.63 mg/kg/d, whereas the BTAG avian NOAEL (used in this risk assessment) is 0.014 mg/kg/d. The BTAG avian TRV is based on studies that employed lead acetate, a form of lead not commonly found in nature. Lead acetate is highly soluble and more bioavailable than inorganic lead or other lead salts, making it more toxic than other forms of lead that are commonly found in the environment. As a result, the risk to birds from exposure to lead may be overestimated.

It should be noted that the methods used in the three main sources to develop the TRVs vary, and this variation may have an effect on the quality of the TRVs. Each source conducted a literature review for each chemical, but BTAG and ORNL TRVs are based on one study considered the most appropriate by the reviewers. TRVs presented in U.S. EPA Eco-SSL documents (a separate document is published for each chemical) are based on a rigorous review of literature obtained from an extensive literature search. Derivation of the NOAELs on which the Eco-SSLs are based was a collaborative effort of a multi-stakeholder team consisting of federal, state, consulting, industry, and academic participants led by U.S. EPA's Office of Solid Waste and Emergency Response. A weight-of-evidence process was used to derive the TRVs, which is described in Attachment 4-5 to the Eco-SSL guidance (U.S. EPA, 2003).

Exposure Conditions of Literature-Derived Toxicity Reference Values

The majority of the evaluated toxicity data were derived from laboratory studies that were conducted in settings that do not mimic true field conditions. Laboratory studies typically control various factors in order to isolate one parameter in particular. Although such controlled experiments result in a more valid interpretation of the isolated parameters or relationship, uncertainty is associated with assuming laboratory exposure conditions are equivalent to in-field exposure conditions. As discussed in the following paragraphs, exposure duration and toxicity characterization are two parameters that exemplify the difficulty in translating literature-derived data to data representing the exposure conditions for receptors in this ecological risk assessment. In development of TRVs, the use of chronic data is preferred. Available toxicological data were not always associated with chronic exposure durations. Therefore, uncertainties were introduced in extrapolating non-chronic test results to chronic receptor toxicity values. These uncertainties were partially handled through the application of uncertainty factors in the derivation of low TRVs.

Uncertainty is associated with the extrapolation of literature-derived toxicity endpoints (especially laboratory-based studies) to equivalent endpoints for receptors due to discrepancies in exposure conditions. For example, the stressors affecting a receptor exposed to COPECs in the wild can be very different than those affecting an organism exposed in a laboratory setting. However, the direction, magnitude, and effect of this uncertainty are not known.

Magnitude of Difference between Low TRV and High TRV

Low TRVs derived by the BTAG, U.S. EPA Eco-SSL, and ORNL represent a no effect level, whereas the high TRVs represent the mid-range of effects levels found in the literature. There is a critical point on the dose-response curve at which effects will first be seen, but that dose is not known. The difference between the low and high TRVs is typically an order of magnitude, and HQs between 1 and 10 give an indication of how close the dose may be to the no effect or low effects levels represented by the TRVs. When the difference between the low and high TRV for a COPEC is very great, there is a high degree of uncertainty regarding where effects may first be seen.

The difference between the low and high TRVs is greater than two orders of magnitude for some COPECs, such as avian TRVs for cadmium and lead. A large difference in the high and low TRV for a COPEC increases the uncertainty of risk conclusions based on the magnitude of the low benchmark HQ, because it is unknown whether the dose estimated is approaching where first-effects may be found. An extreme case is lead, for which the avian high TRV is 625 times the avian low TRV. Even reference exposure results in a high magnitude, low TRV HQ. However, it is unlikely that there would be wide-spread effects on birds in San Francisco Bay. Such a large difference between the low and high BTAG avian TRVs for lead and concerns about lead bioavailability and toxicity make it almost impossible to accurately assess risk from lead in San Francisco Bay.

Use of Surrogate Species Data

In the absence of toxicity data specific to the selected representative receptors used in this ecological risk assessment, it is preferable to develop TRVs based on data from species phylogenetically similar to a particular representative receptor. The representative receptors from the various avian and mammalian guilds have different feeding behaviors and diets. For several COPECs, avian TRVs were developed using data for species that are not similar to one or another of the representative receptors in terms of diet or feeding activity. This represents a primary source of uncertainty associated with applying the TRVs to dissimilar species. Without species-specific data, it is impossible to determine whether the data from surrogate species appropriately reflect the sensitivity of a particular representative receptor.

Use of Surrogate TRVs for Individual and Summed COPECs

The low and high TRVs for chlordane were used for evaluation of the following components of chlordane: *alpha*-chlordane and *gamma*-chlordane. The BTAG avian low TRV for DDT and metabolites was used as a surrogate and the high TRV for DDE was used for evaluation of DDT and metabolites (4,4′-DDT, DDD, and DDE compounds). Avian TRVs for Total PCBs were derived from studies that exposed birds to Aroclor 1254 and Aroclor 1242. These TRVs were used to evaluate risk from Total PCB values that were calculated by summing individual PCB congener values. Risk from individual components or sums that was estimated using a TRV for a surrogate chemical or mixture may be over- or underestimated, depending on how the toxicity of the individual component relates to the mixture. In the case of PCBs, uncertainty in the risk estimates arises from the relationship of the toxicity of the congener mixture (the particular Aroclor) used in the toxicological study to the toxicity of the mixture present at the site.

Compounds without TRVs

Many compounds did not have TRVs. Thus the potential risk from exposure to these compounds is not known.

7.4.4 Uncertainty Associated with the Risk Characterization

Risk associated with a number of COPECs could not be quantitatively evaluated for one or more receptors due to a lack of exposure inputs and/or effects data. For most of these COPECs, little is known about environmental fate and transport and/or toxicity. Consequently, these compounds are rarely the focus of ecological risk assessments. However, the exclusion of COPECs that could not be quantitatively evaluated as risk drivers imparts uncertainty to the conclusions of this ecological risk assessment, and may contribute to an underestimation of risk to ecological receptors. The overall impact of not recommending these compounds as potential risk drivers is not considered to be significant, as this ecological risk assessment addressed all compounds commonly evaluated in an ecological risk assessment and commonly identified as risk management drivers on contaminated sites.

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8.0 CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the major findings of the Western Bayside and Breakwater Beach SI and provides recommendations regarding the need for additional evaluation. This SI Report presents the current understanding of the potential sources of contamination, the nature and extent of contaminants based on previous investigations and the June 2005 sampling conducted for the SI, and the methods and results of the ecological and human health risk assessments conducted for Western Bayside and Breakwater Beach. All of these elements were combined to identify areas that potentially pose an unacceptable risk to human health and the environment, requiring evaluation. A summary of the results and recommendations for each site is provided below.

8.1 Western Bayside

As described in Section 1, Western Bayside is defined as a 1.1 mile long area located along the western edge of Alameda Point that then extends eastward along the southern shoreline to include the offshore area between IR Site 2 and IR 17. Potential sources of contamination are related to historical use of adjacent lands (1943-1956 Disposal Area [IR Site 1] and the West Beach Landfill [IR Site 2]), six nearby outfalls, and a culvert that drains the area north of IR Site 2.

8.1.1 Nature and Extent of Sediment Contamination

Surface sediment concentrations for all inorganic and organic constituents were below the ER-M values in all 2005 samples, except for nickel, where site concentrations were less than ambient concentrations. No inorganic constituents exceeded ambient concentrations in 2005 surface sediment samples except for silver at one location, which was less than the ER-M value. Only chromium and antimony were statistically greater than ambient conditions, and only when data from All Years were included. A review of the box plots shows that it is only the 1993/94 measurements that appear elevated relative to ambient. It should be noted that the antimony concentrations in 1993/94 were determined to be erroneous. Chromium concentrations in the 1993/94 data set were less than the ER-M value. In surface sediments, antimony, mercury, and nickel were the only inorganic constituents that exceeded ER-M values in any year (1993/94, 1996, and 2005). Mercury exceeded its ER-M at one location in 1993/94 (site concentration of 0.847 mg/kg compared to an ER-M value of 0.71 mg/kg), and nickel concentrations, while greater than the ER-M in 1993/94 and 2005, were less than ambient concentrations. In the subsurface sediment (collected only in 2005), no ER-M values were exceeded for inorganic constituents, except for nickel, which was less than the ambient concentration. Pesticides (other than Total DDx) were infrequently detected in Western Bayside sediment. No pesticides, PCBs, or PAHs in surface sediment exceeded ER-M values during the 2005 sampling event. When data from All Years were evaluated, PAHs and Total DDx were elevated in surface sediments compared to ambient conditions, but only 4,4'-DDT exceeded its respective ER-M value at one location in 1996 (site concentration of 11 μg/kg compared to an ER-M value of 7 μg/kg). In the subsurface sediment (2005 only), one sampling location had concentrations of 4,4'-DDT greater than the ER-M, and one location had concentrations of several PAHs that exceeded ER-M values. The 2005 sampling stations that are located adjacent to onshore groundwater monitoring wells did not detect locally elevated or unacceptable concentrations of chemicals of potential concern (COPCs). In addition, there is no indication that discharges, runoff, or groundwater has resulted in contaminant levels in offshore sediments that pose an unacceptable risk.

8.1.2 Human Health Risk Assessment

The human health risk assessment for Western Bayside focused on activities associated with the collection and consumption of shellfish. Specifically, the assessment evaluated both indirect (i.e., consumption of shellfish) exposures as well as direct exposures, such as direct contact and incidental ingestion of sediment associated with the collection of shellfish. Potential risks associated with consumption of fish were also evaluated, using forage fish tissue concentrations modeled from sediments. The results indicate that risks and hazards to humans from chemicals in Western Bayside sediments appear to be similar to risks and hazards from reference conditions. At Western Bayside, RME and CTE hazard indices for all three exposure pathways were less than one, except for the fish consumption RME hazard index, which was less than reference. A few chemicals of concern (arsenic, chromium, benzo(a)pyrene, and Total PCBs) had individual cancer risks greater than 1 x 10^{-6} for at least one of the three exposure pathways under the RME scenario. Arsenic was the main contributor (76 – 97%) to potential cancer risk for all three exposure pathways at Western Bayside, and was the only chemical of concern with an individual cancer risk greater than 1 x 10^{-6}, but less than reference, under the CTE scenarios. Total cumulative risks for each of the exposure scenarios, as well as the total site risk and hazard, at Western Bayside were less than those for reference conditions. Risks estimated for radionuclides were found to be lower than acceptable risk levels for residents (10^{-6}). Therefore, based on the results of this assessment, it was concluded that there are no unacceptable risks to humans at Western Bayside, and no action is recommended.

8.1.3 Ecological Risk Assessment

To evaluate potential risks to ecological receptors, a tiered process was used that encompasses the eight steps consistent with U.S. EPA and Navy guidelines. In the first tier, the problem formulation was developed, including the development of the CSM, identification of COPECs, and a SLERA using conservative screening parameters. The SLERA for Western Bayside included both a direct contact toxicity to evaluate AE(1) (benthic invertebrates) and AE(2) (fish) and a screening-level risk estimate to evaluate AE(3) (avian receptors). Based on the direct contact toxicity screen, a number of the compounds for all three data sets (All Years, 2005 Surface, and 2005 Subsurface) with direct contact benchmarks failed the screening. Additionally, there were numerous analytes that were detected in sediment that have no benchmarks for comparison. Thus, AE(1) and AE(2) were recommended for further evaluation in the BERA. The screening-level risk estimate for AE(3) also indicated that a number of constituents at Western Bayside should be evaluated further in the BERA because they (1) either did not have toxicity reference values but could be evaluated quantitatively, or (2) had low TRV HQs that exceeded one for at least one avian receptor and sediment data set.

In the BERA, the preliminary problem formulation and measurements of exposure and effects were refined and integrated into a characterization of risk that included a detailed discussion of the potential uncertainties associated with the assessment. The list of COPECs was refined by comparing site sediment concentrations with ambient background concentrations to identify those constituents that are above ambient concentrations and whose presence in offshore sediments could be attributed to Navy operations. Additional evaluation of the selected assessment endpoints included: (1) review of historical bioassays to evaluate the potential impacts to benthic invertebrates (AE 1), (2) modeling of fish tissue concentrations and comparisons to effect levels in tissues to evaluate potential impacts to fish (AE 2), and (3) refinement of dose models to evaluate potential risk to the avian community (AE 3).

Based on this refined evaluation, risks to benthic invertebrates (AE 1), fish (AE 2), and the avian community (AE 3) were deemed acceptable for both the All Years and 2005 data sets. Therefore, based on the results of the SLERA and the BERA, it was concluded that there are no unacceptable risks to ecological receptors at Western Bayside, and no action is recommended.

8.2 Breakwater Beach

Breakwater Beach is located in the southeastern part of Alameda Point and includes a beach and an offshore area that extends from the southern shoreline of Alameda Point to a long breakwater south and southeast of a turning basin. Potential contaminant sources include historical wastewater and storm water discharge, surface runoff, and discharges associated with marina activities.

8.2.1 Nature and Extent of Sediment Contamination

No ER-M values were exceeded in surface sediment for any inorganic constituents or organic chemicals, except for nickel, during any sampling event. Nickel was the only analyte at Breakwater Beach that exceeded its ER-M in surface sediment, but nickel concentrations at Breakwater Beach were not different from San Francisco Bay ambient nickel concentrations. Based on the All Years data set, cadmium, chromium, copper, lead, mercury, selenium, and silver appeared elevated at Breakwater Beach compared to ambient conditions. Statistical comparisons to ambient could not be conducted for the majority of organic chemicals at Breakwater Beach due to insufficient numbers of detections in all years sampled. Of those detected in enough surface sediment samples to support statistical comparisons, Total LPAHs, Total HPAHs, Total PAHs, and four individual PAH constituents (benzo(a)pyrene, benzo(b)fluoranthene, fluoranthene, pyrene) were elevated compared to ambient conditions, but were less than ER-M values. Highest concentrations of PAHs were observed along the Breakwater Beach shoreline adjacent to outfalls O and P. In the subsurface sediment, no ER-Ms were exceeded for inorganic constituents except for nickel (which was less than ambient), and the only organic chemical that exceeded the ER-M was Total PCBs at one location (PCBs at a depth of 75 to 180 cm was 210 µg/kg compared to an ER-M value of 180 µg/kg).

8.2.2 Human Health Risk Assessment

The human health risk assessment for Breakwater Beach also focused on direct and indirect exposures associated with the collection and consumption of shellfish, as well as potential risks associated with consumption of fish. The results indicate that risks and hazards to humans from chemicals in Breakwater Beach sediments appear to be similar to risks and hazards from reference conditions. At Breakwater Beach, RME and CTE hazard indices for all three exposure pathways were less than one, except for the shellfish and fish consumption RME scenarios, which were less than reference. A few chemicals of concern (arsenic, chromium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and Total PCBs) had individual cancer risks greater than 1×10^{-6} for at least one of the three exposure pathways under the RME scenario. However, these risks were either similar to (or lower than) RME reference risks, or were less than 1×10^{-6} under average exposure (i.e., CTE) conditions. Arsenic was the main contributor (77 – 95%) to potential cancer risk for all three exposure pathways at Breakwater Beach. The conservative assumption that all of the arsenic present in fish and shellfish tissue is the more toxic inorganic form likely overestimates arsenic risk and hazard by 90%. Total cumulative risks for each of the exposure scenarios, as well as the total site risk and hazard, at Western Bayside were similar to or less than those for reference conditions. Therefore, based on the results of this assessment, it was concluded that there are no unacceptable risks to humans at Breakwater Beach, and no action is recommended.

8.2.3 Ecological Risk Assessment

The same tiered process used for Western Bayside was applied to sediments at Breakwater Beach for the purpose of evaluating potential ecological risks. As described for Western Bayside, the SLERA for Breakwater Beach included both a direct contact toxicity to evaluate AE(1) (benthic invertebrates) and AE(2) (fish) and a screening-level risk estimate to evaluate AE(3) (avian receptors). Similar to Western Bayside, the results of the SLERA for Breakwater Beach indicated that further evaluation in a BERA was required.

In the BERA, the preliminary problem formulation was refined and then measurements of exposure and effects were refined and integrated into a characterization of risk that included a detailed discussion of the potential uncertainties associated with the assessment. Based on this refined evaluation, risks to benthic invertebrates (AE 1), fish (AE 2), and the avian community (AE 3) were deemed acceptable. Therefore, no action is recommended.

8.3 Summary

The ecological and human health risk assessments for both Western Bayside and Breakwater Beach indicate that no unacceptable risks to human health or the environment exist at either site. Multiple lines of evidence support the no unacceptable risk conclusion, including comparison to screening benchmarks, toxicity bioassays, dose modeling, current sediment concentrations, and a conservative comparison to background values (see Tables 8-1 and 8-2). Calculated risks are low for most COPCs or COPECs and typically are consistent with ambient conditions or attributable to background sources. Based on this information, no action is recommended for Western Bayside and Breakwater Beach.

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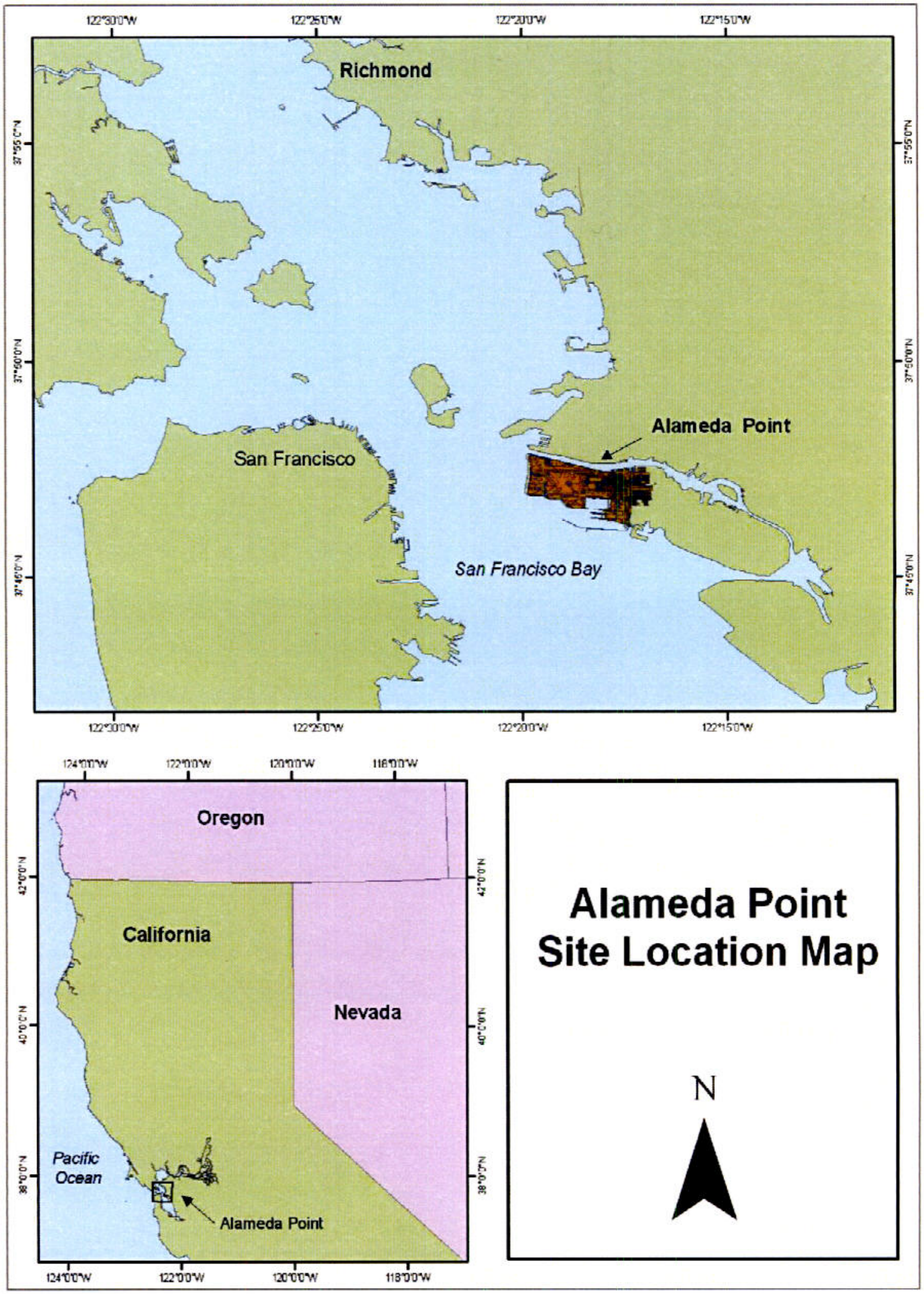
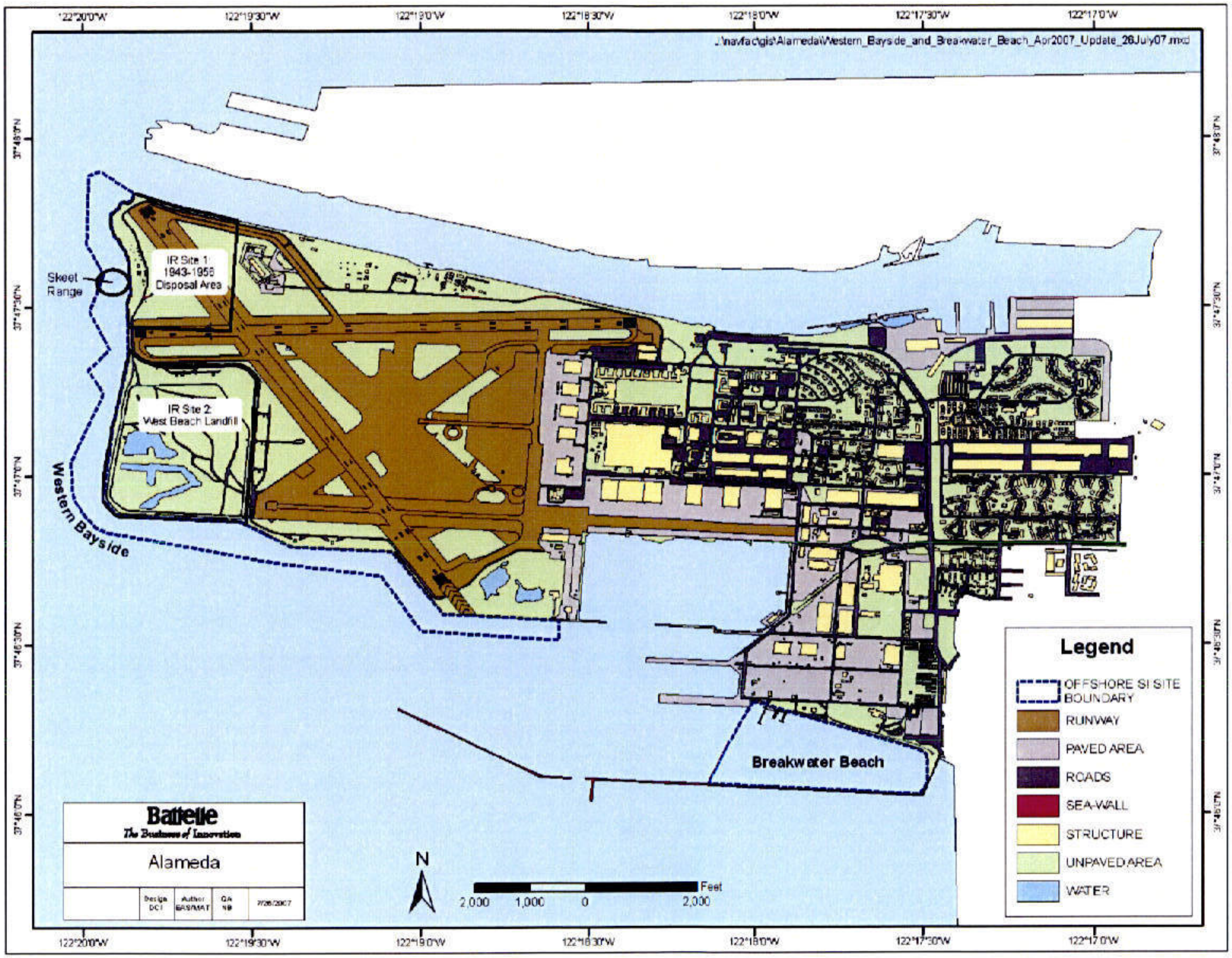


Figure 1-1. Alameda Point Site Location



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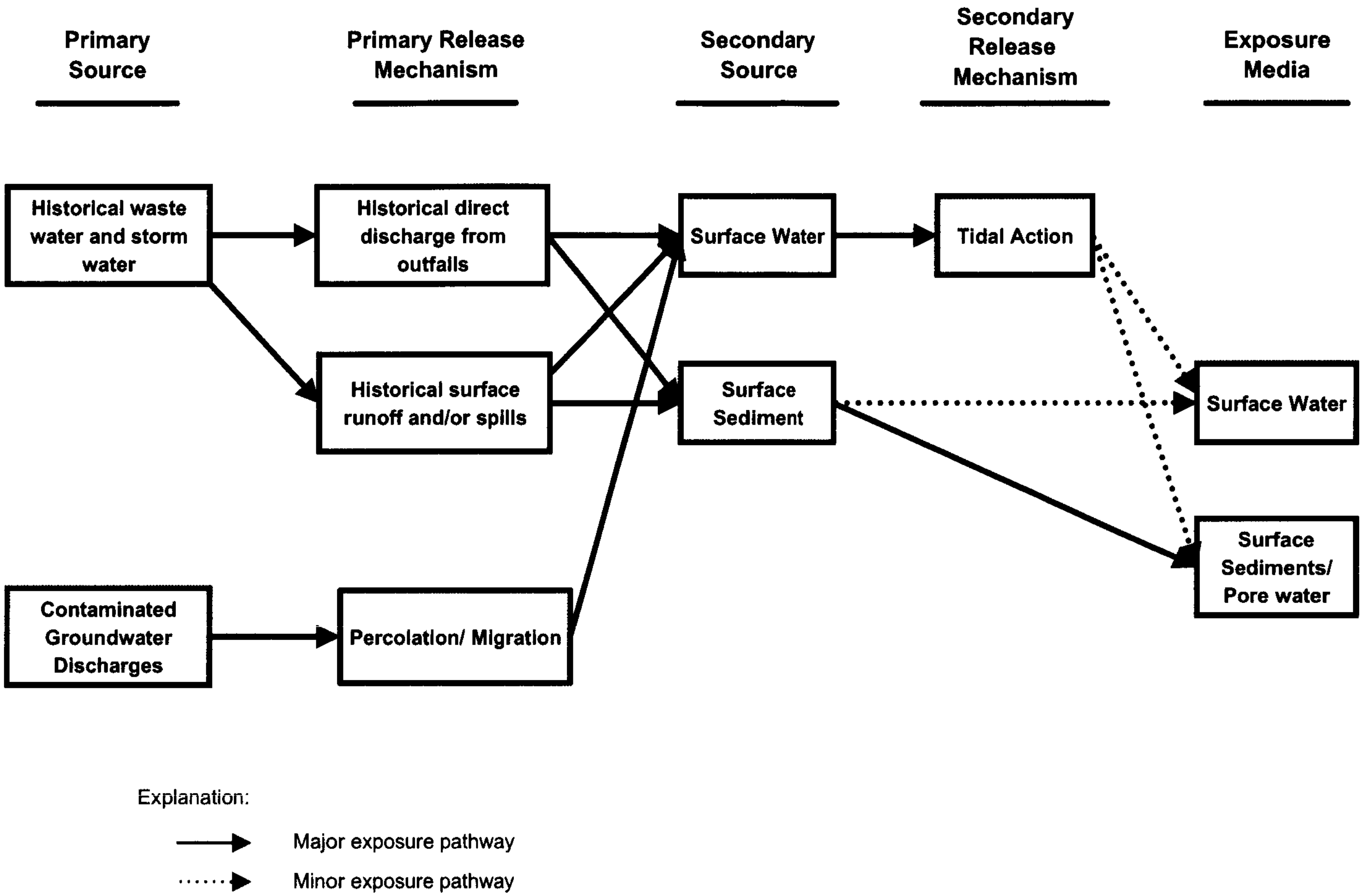
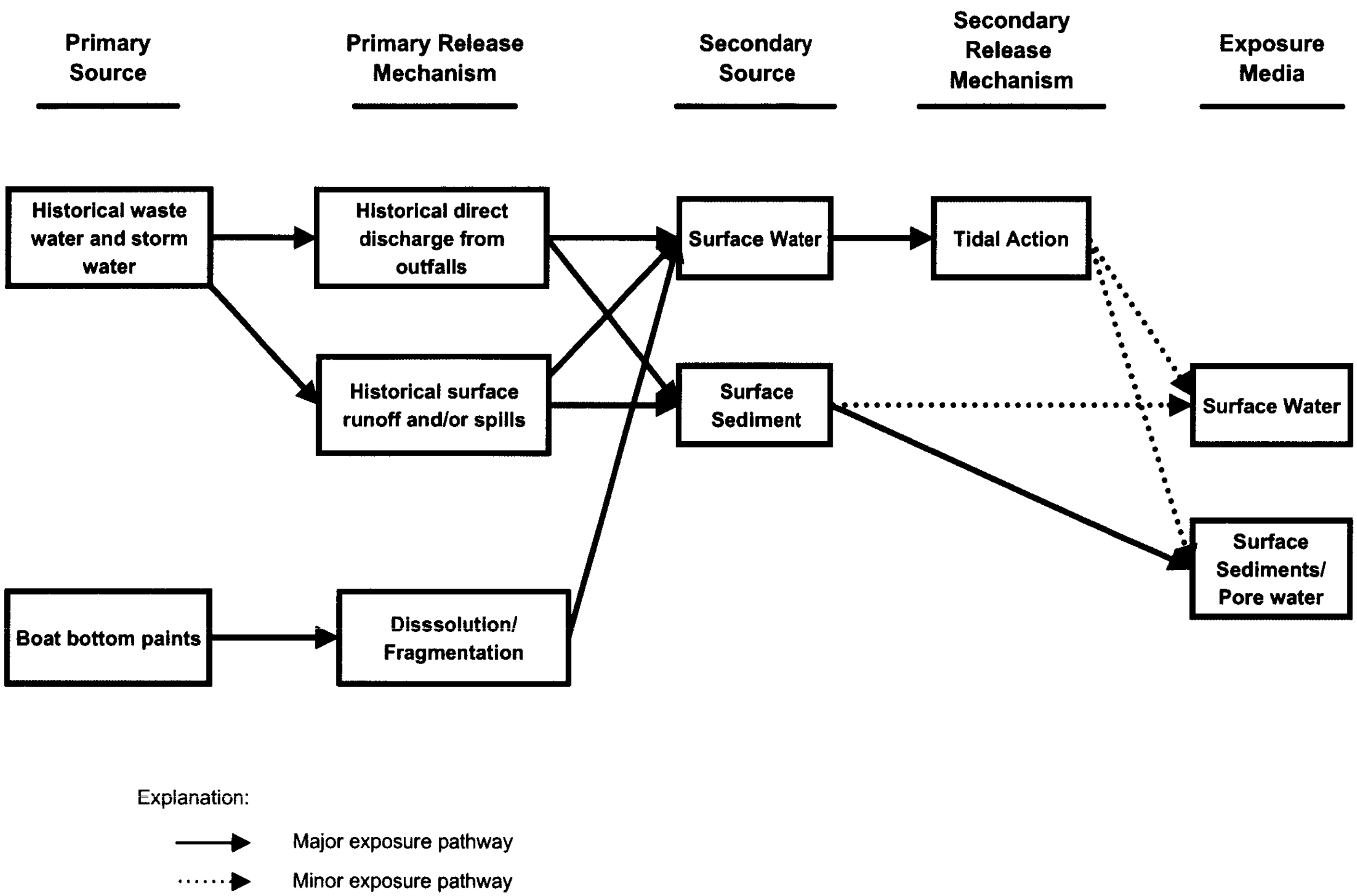


Figure 2-1. Conceptual Site Model for Western Bayside



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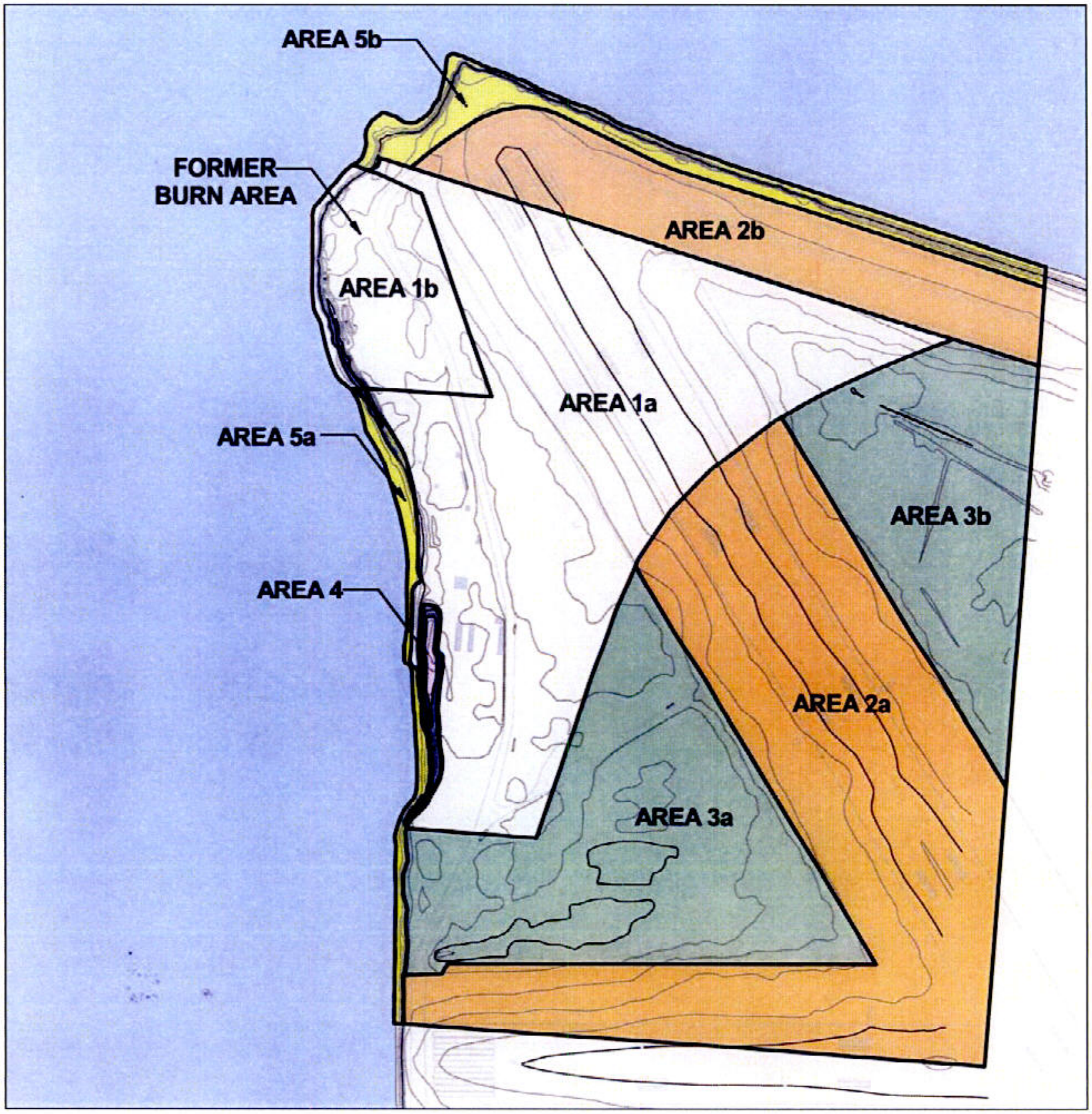

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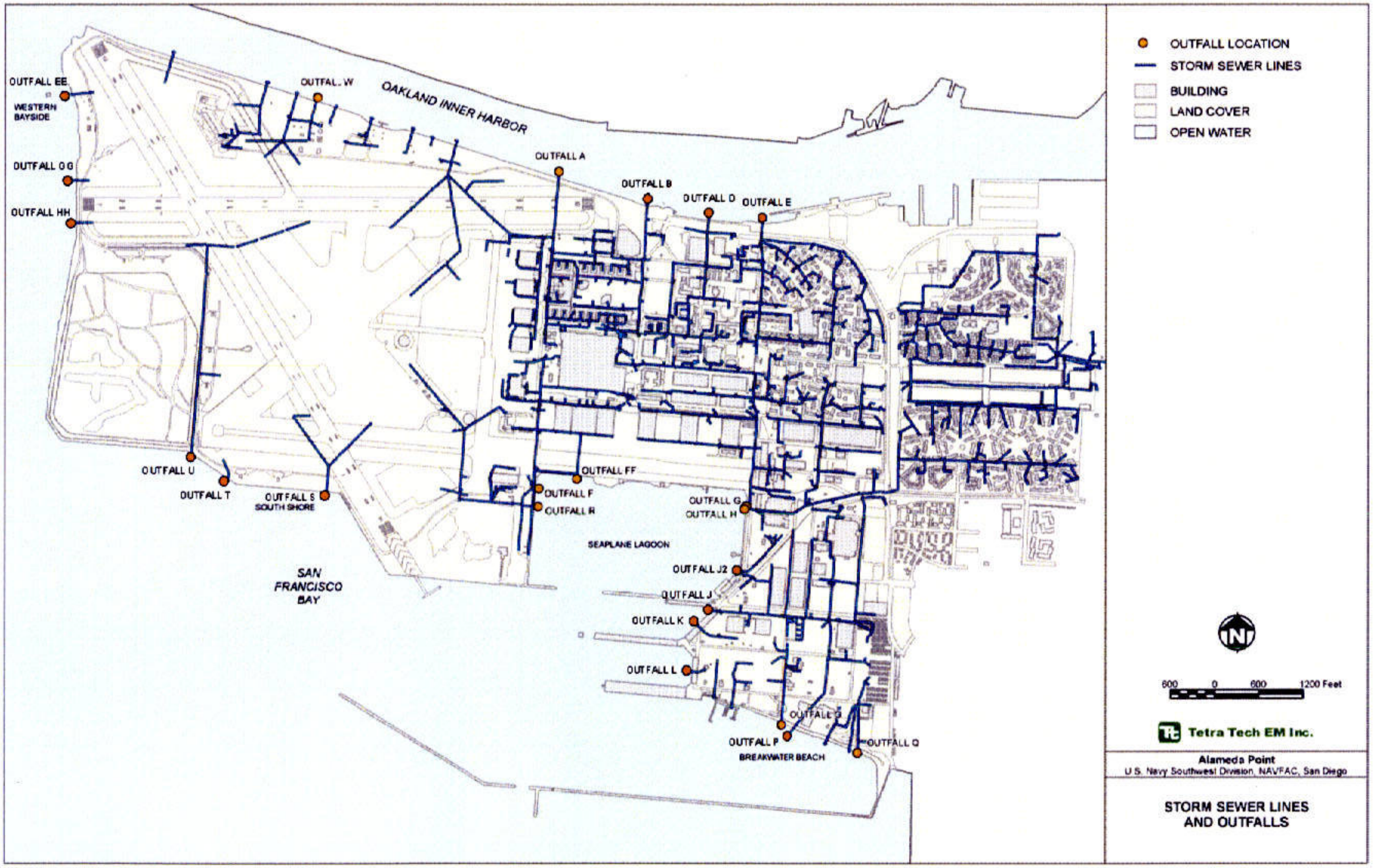

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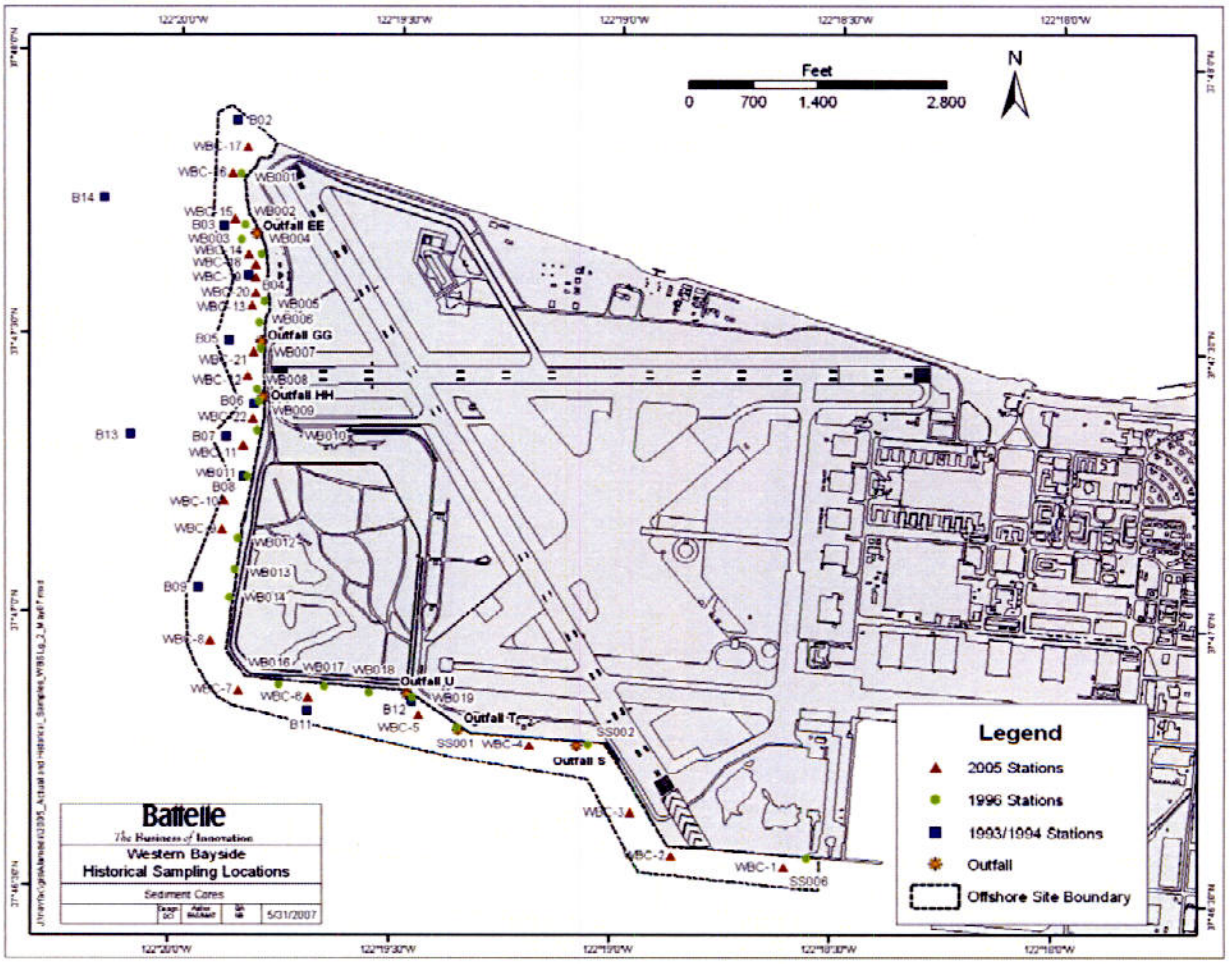


Figure 3-1. Western Bayside Sampling Locations

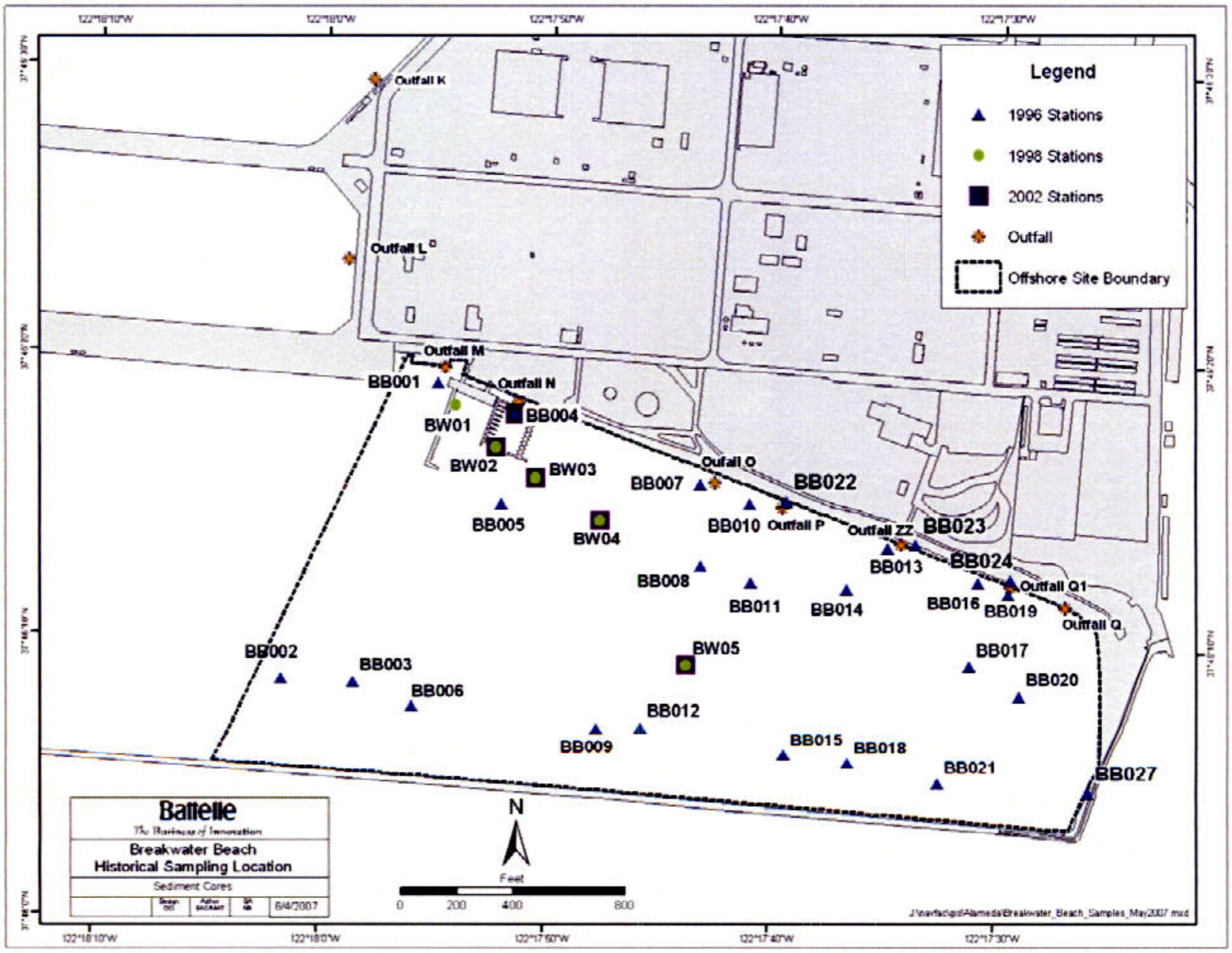


Figure 3-2. Historical Sampling Locations at Breakwater Beach

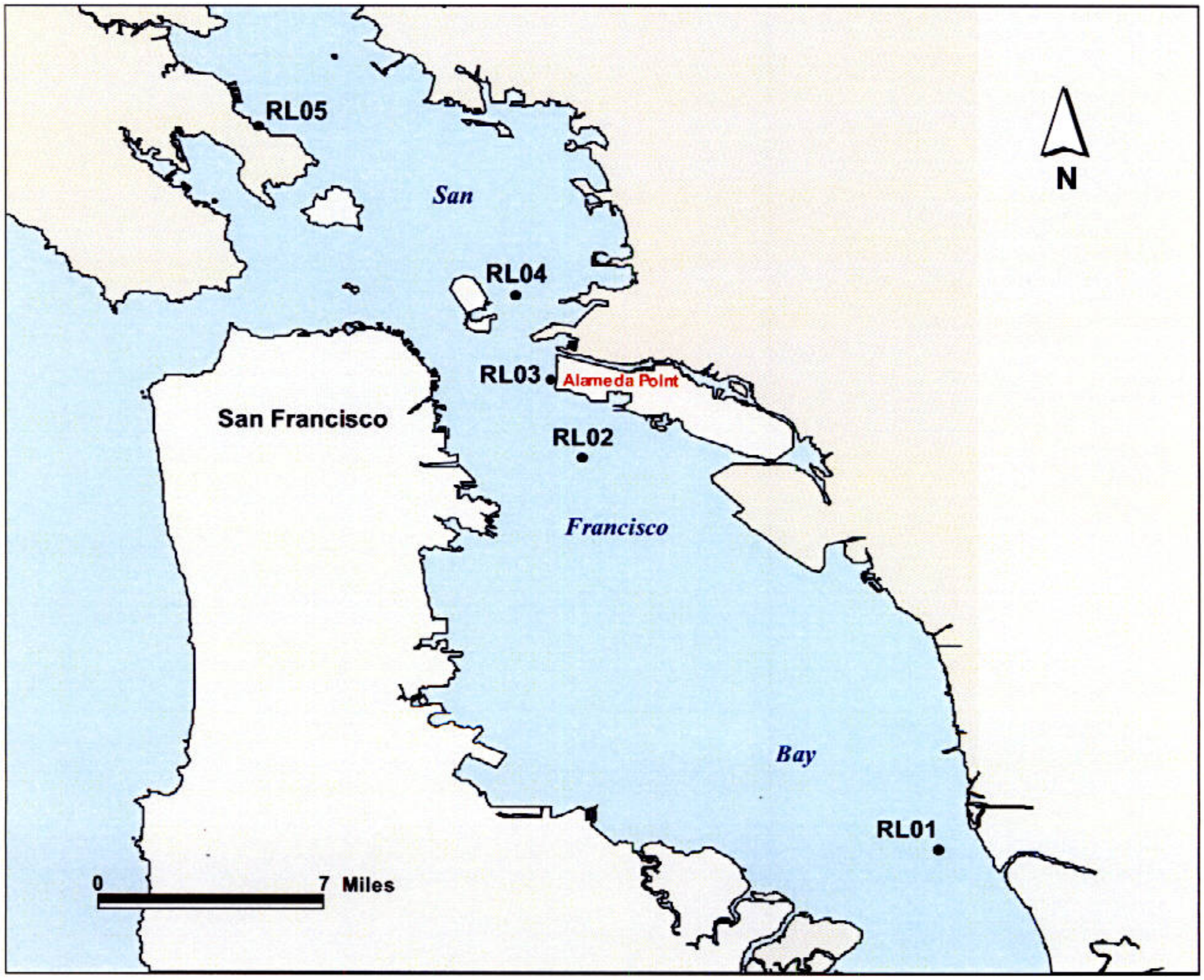
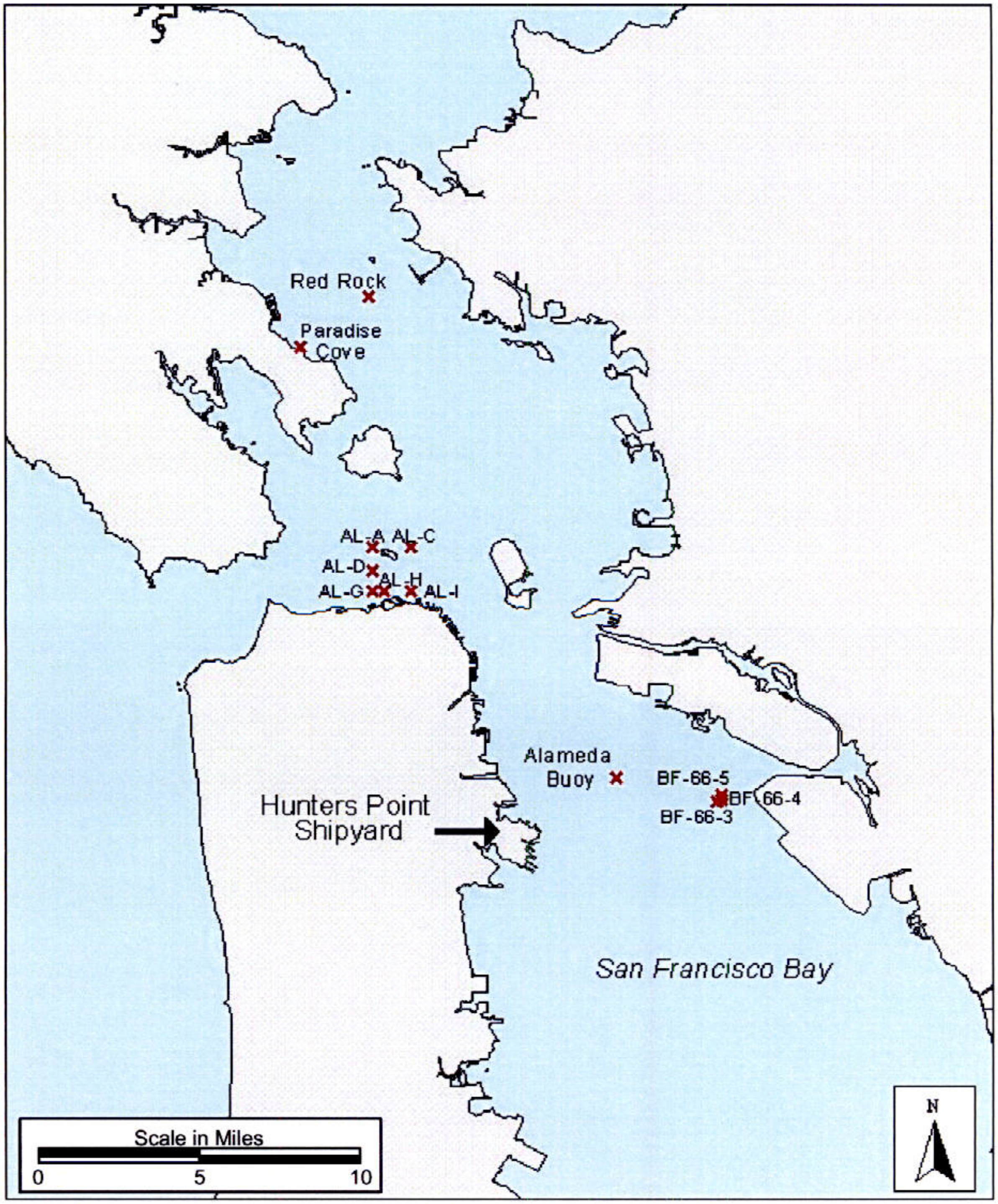


Figure 4-1. 1998 San Francisco Bay Reference Site Sampling Locations



AL = Alcatraz Environs; BF = Bay Farm

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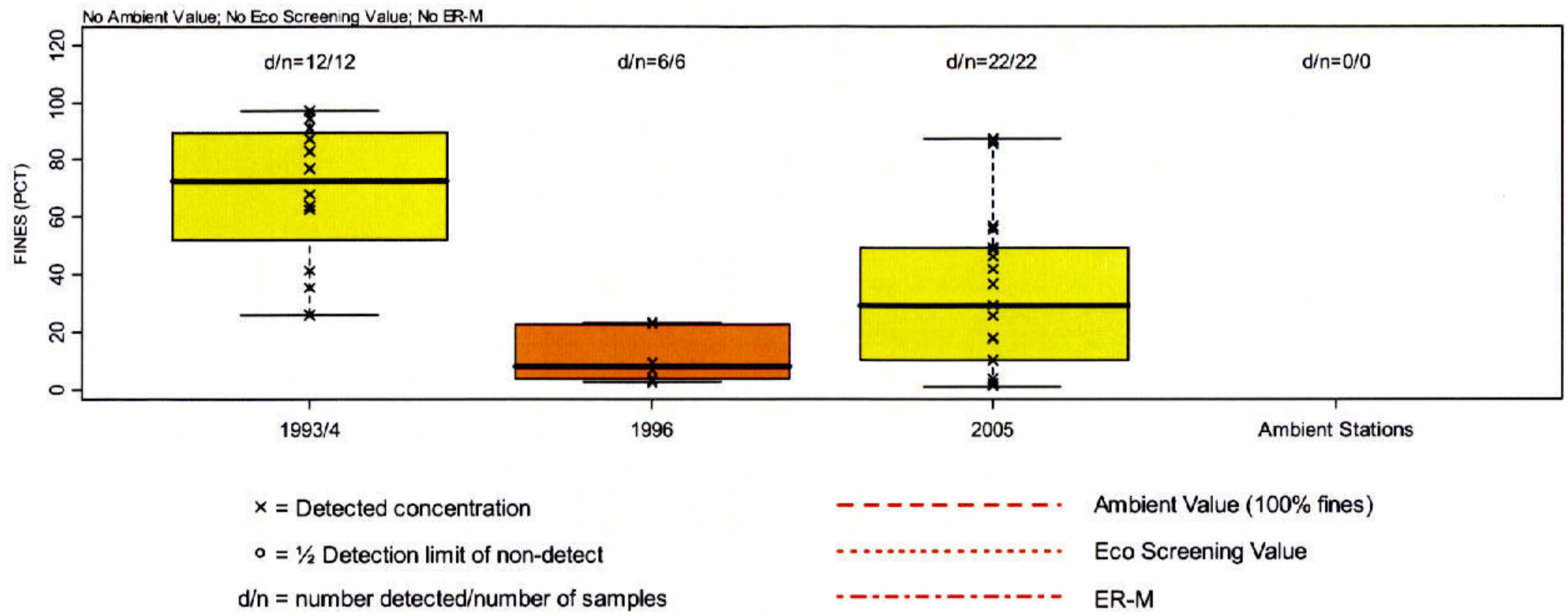

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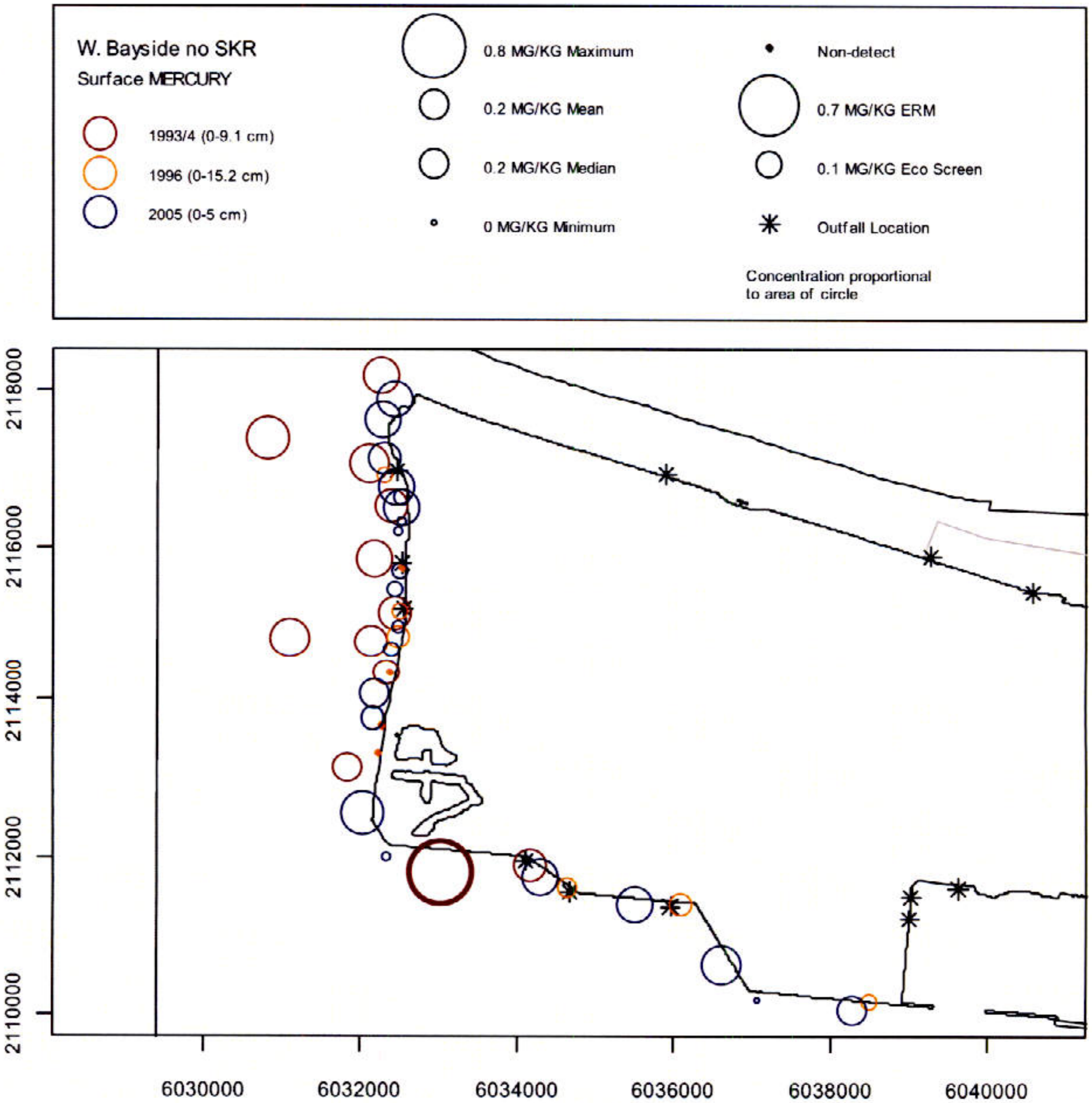

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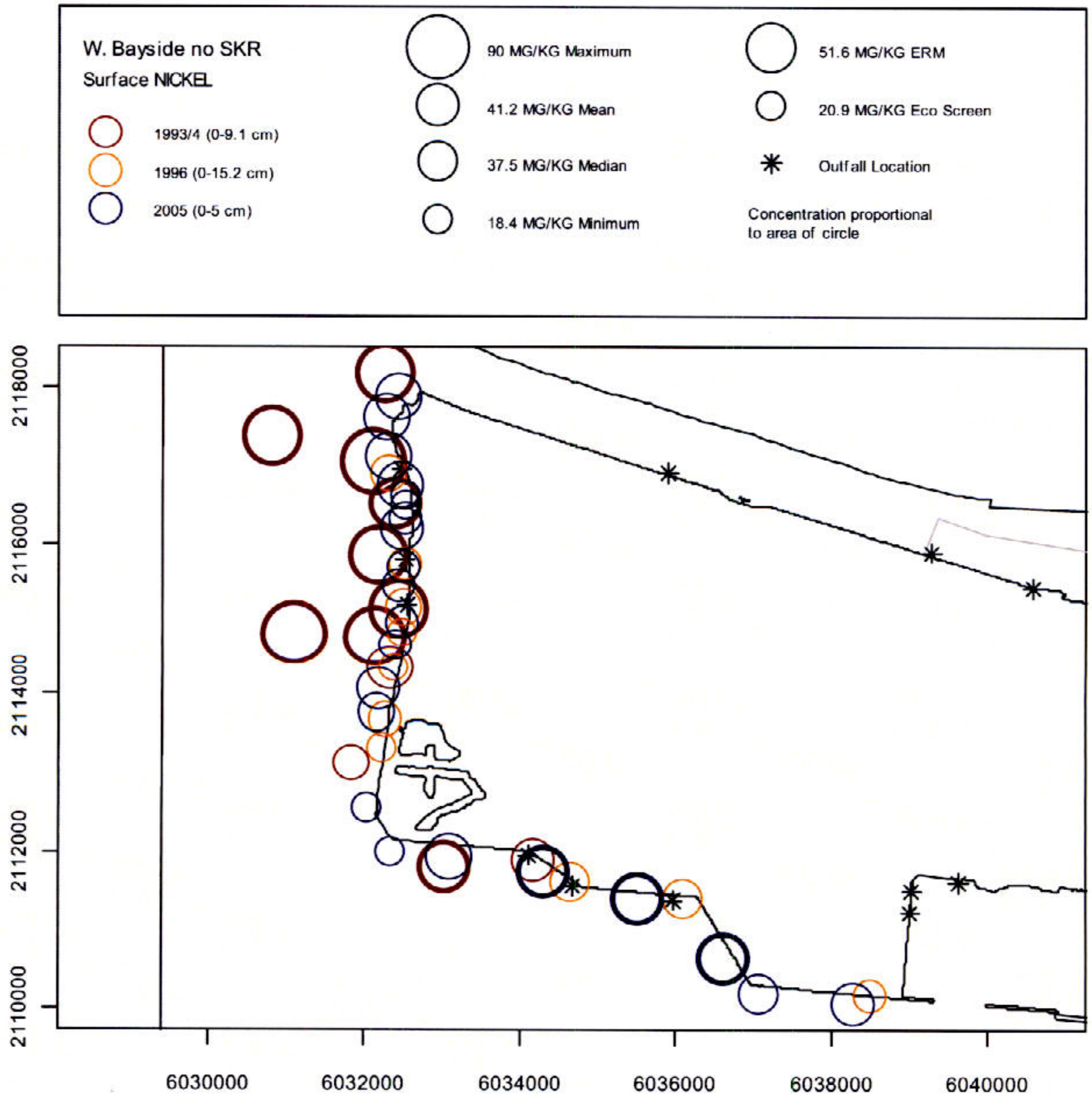

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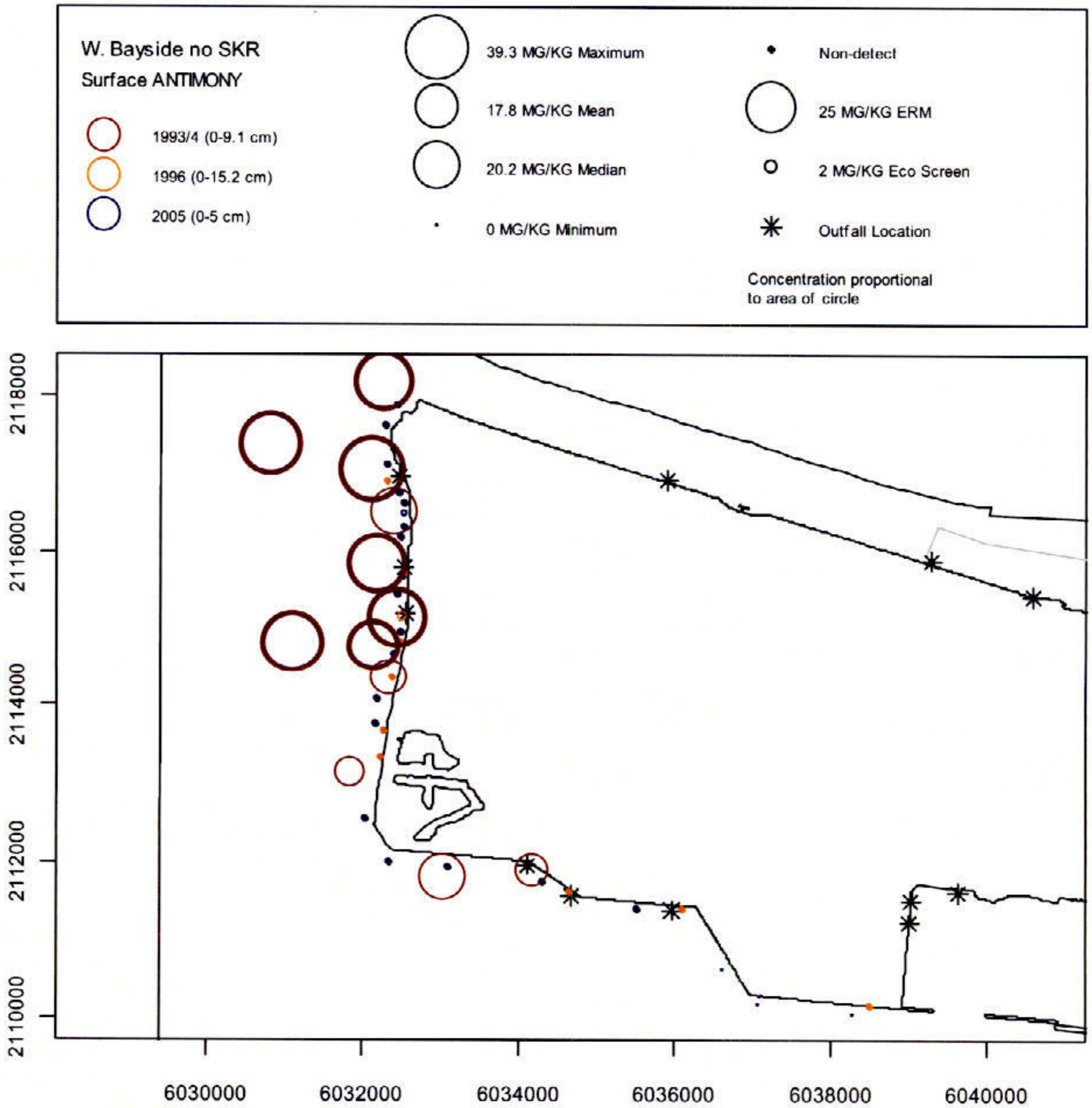

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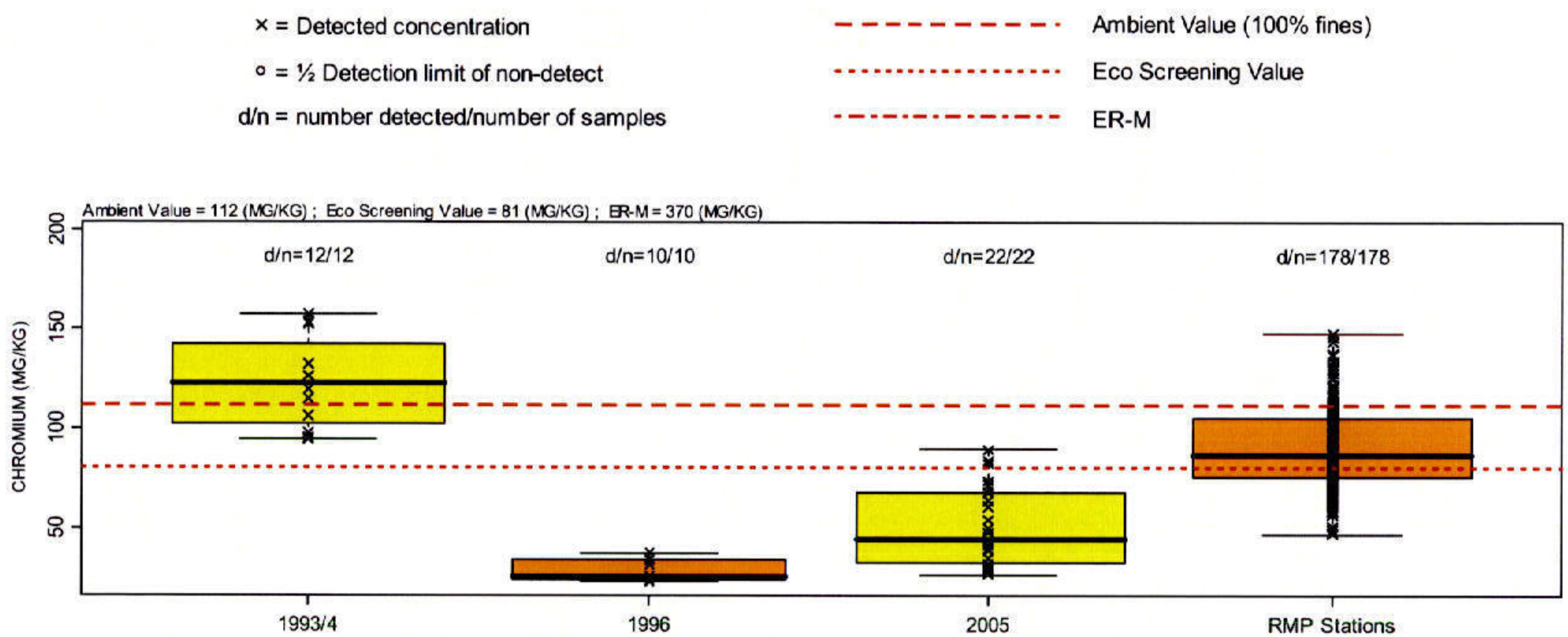

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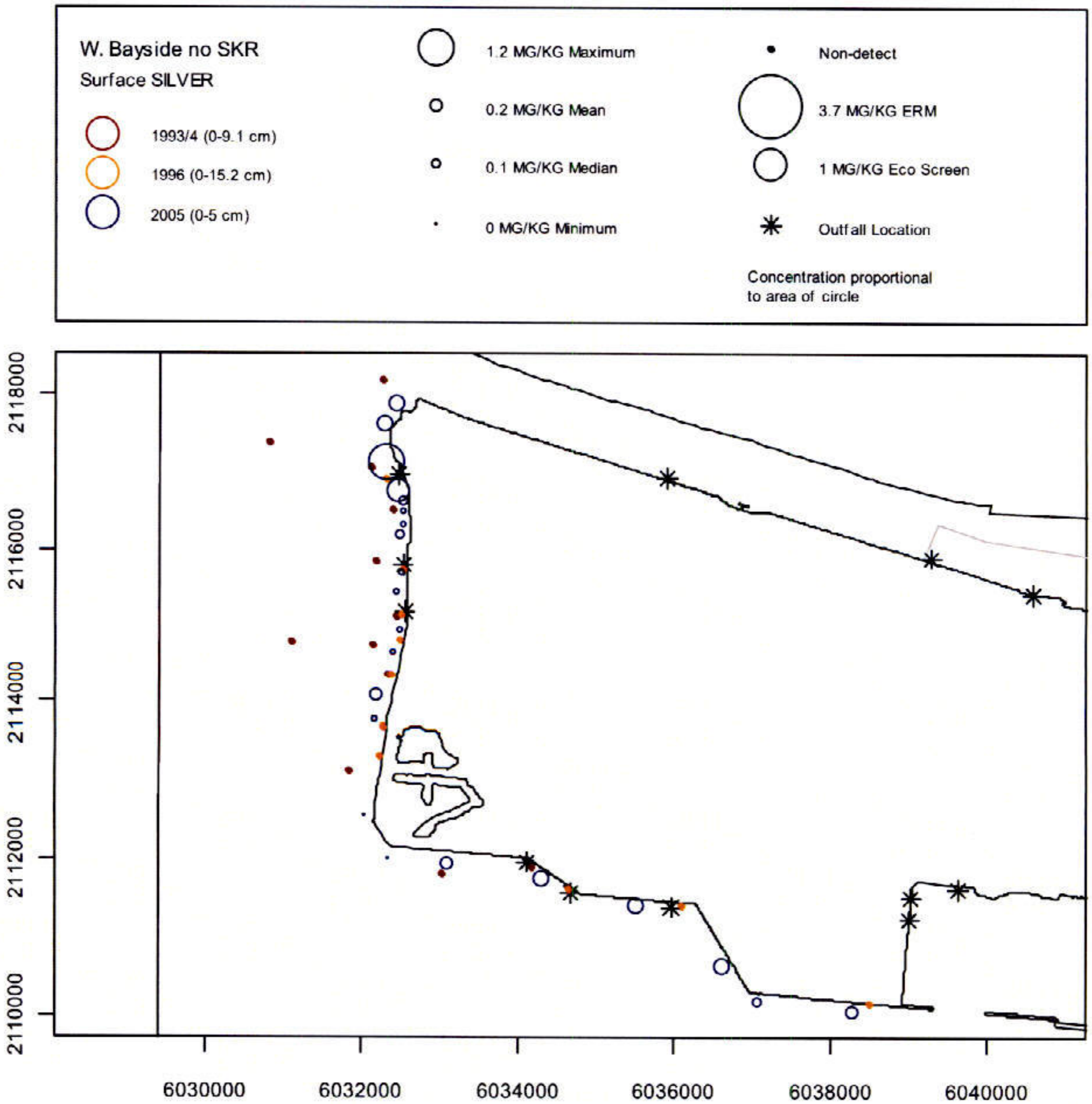

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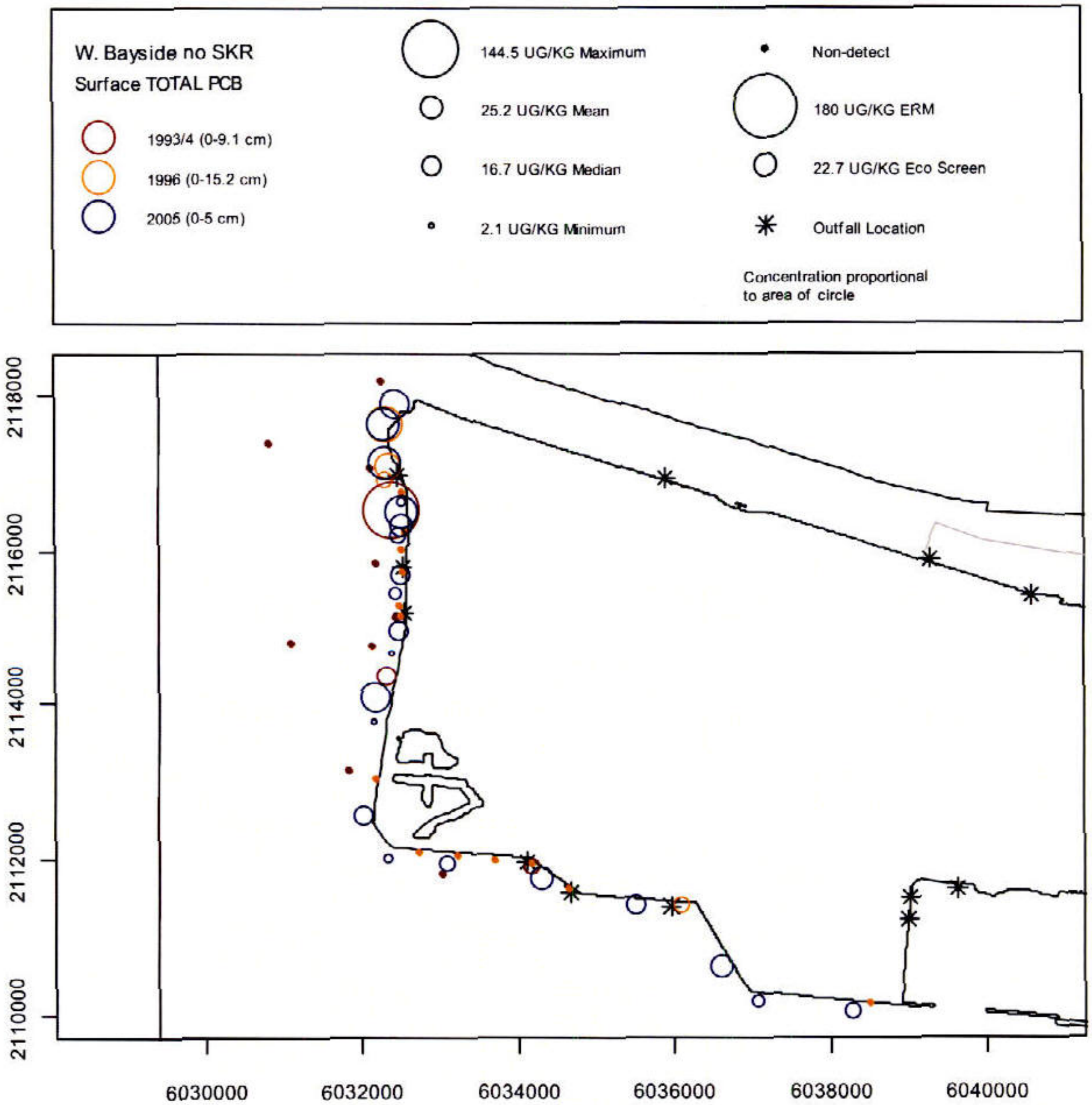

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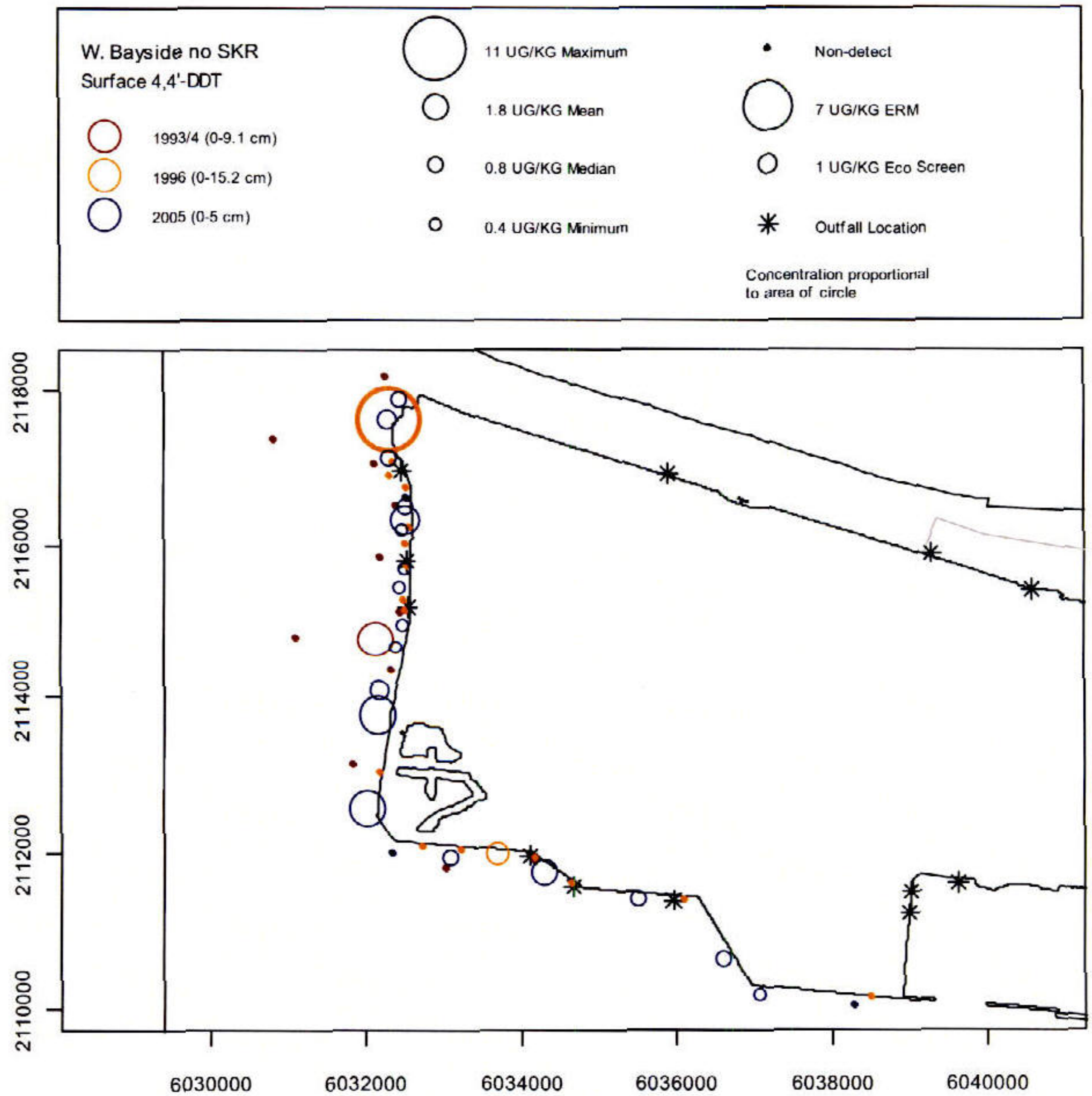
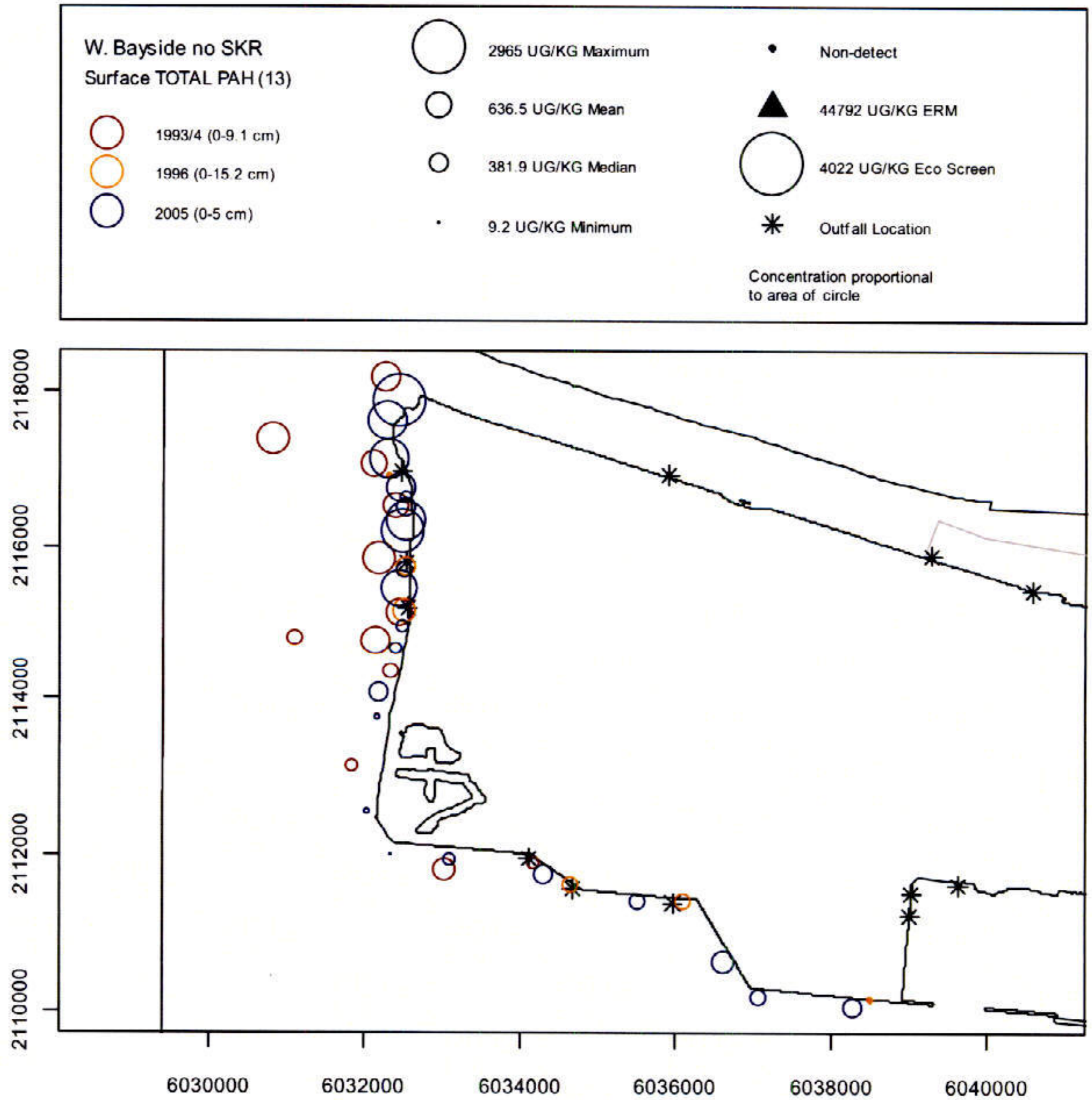


Figure 4-10. Bubble Plots of 4,4'-DDT Concentrations in Western Bayside



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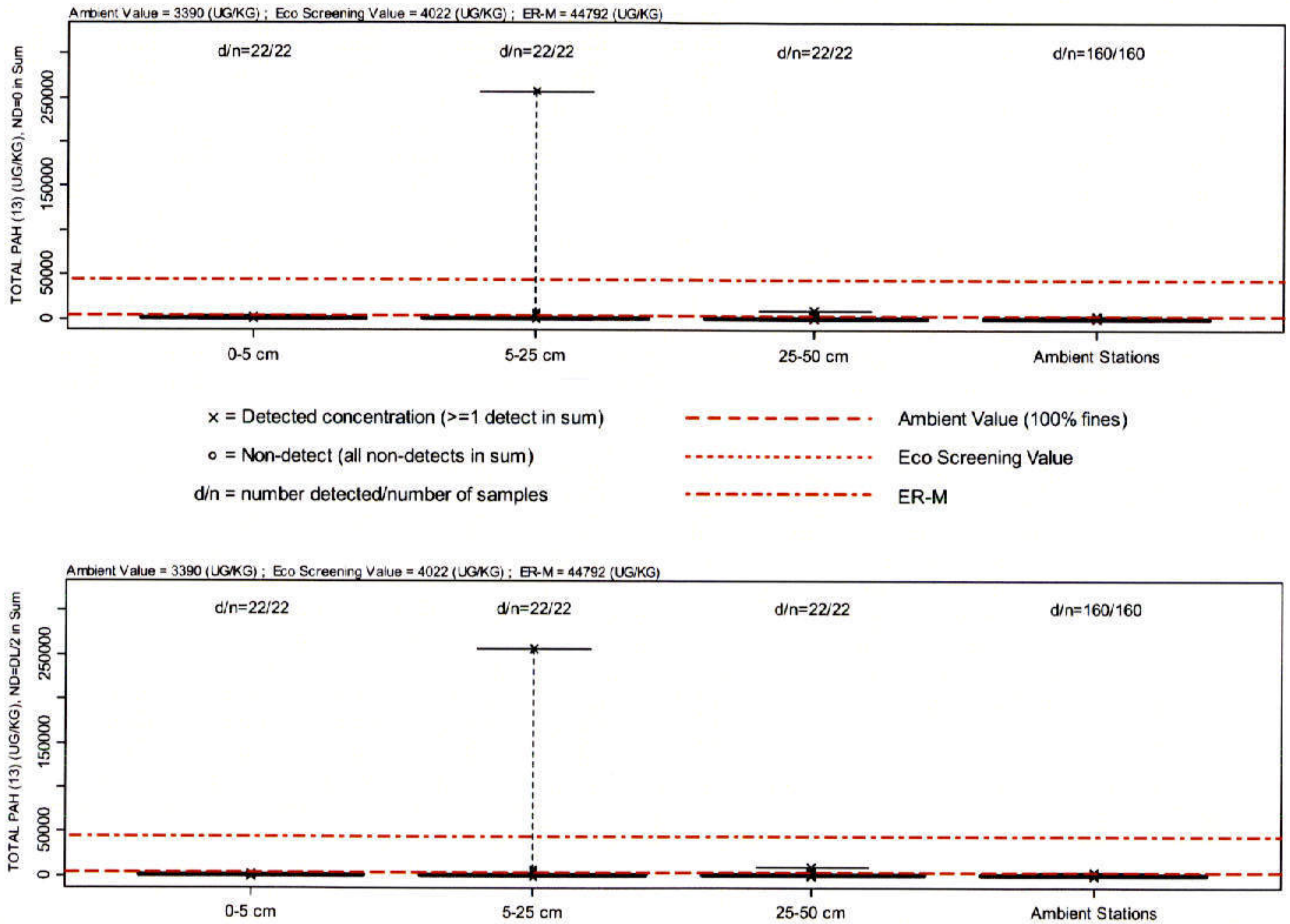

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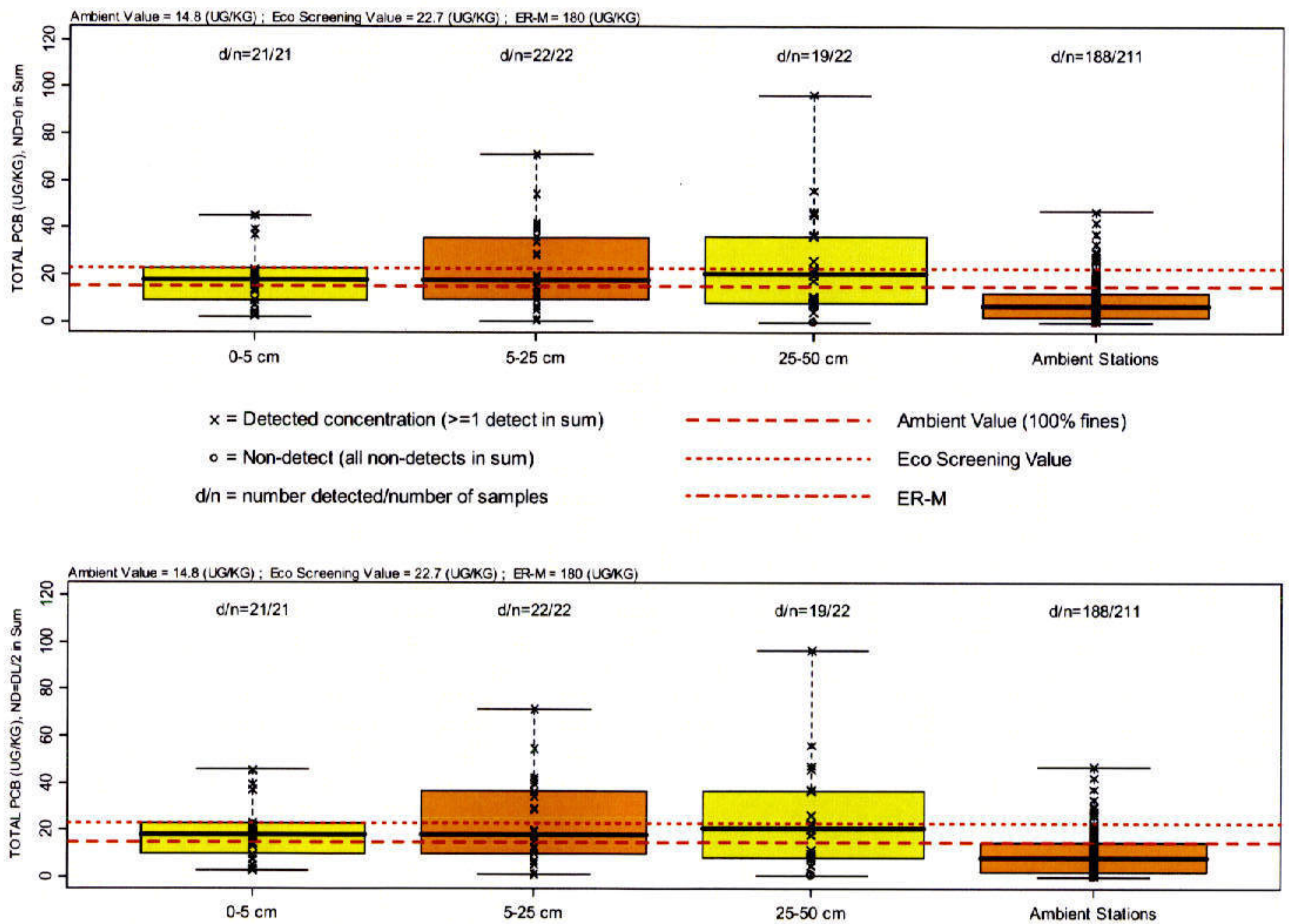
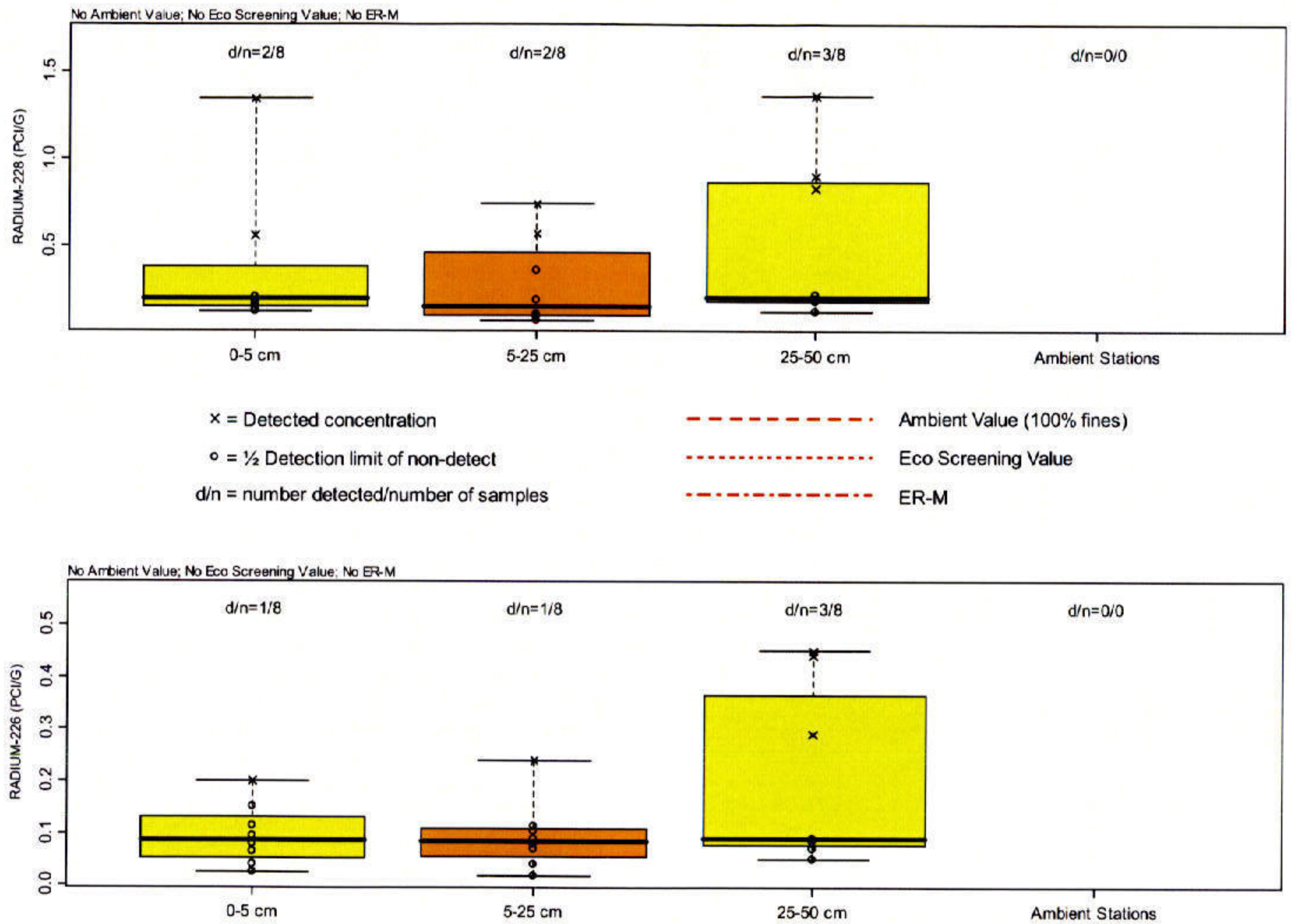


Figure 4-13. Box Plots of Total PCB Concentrations in Western Bayside by Depth



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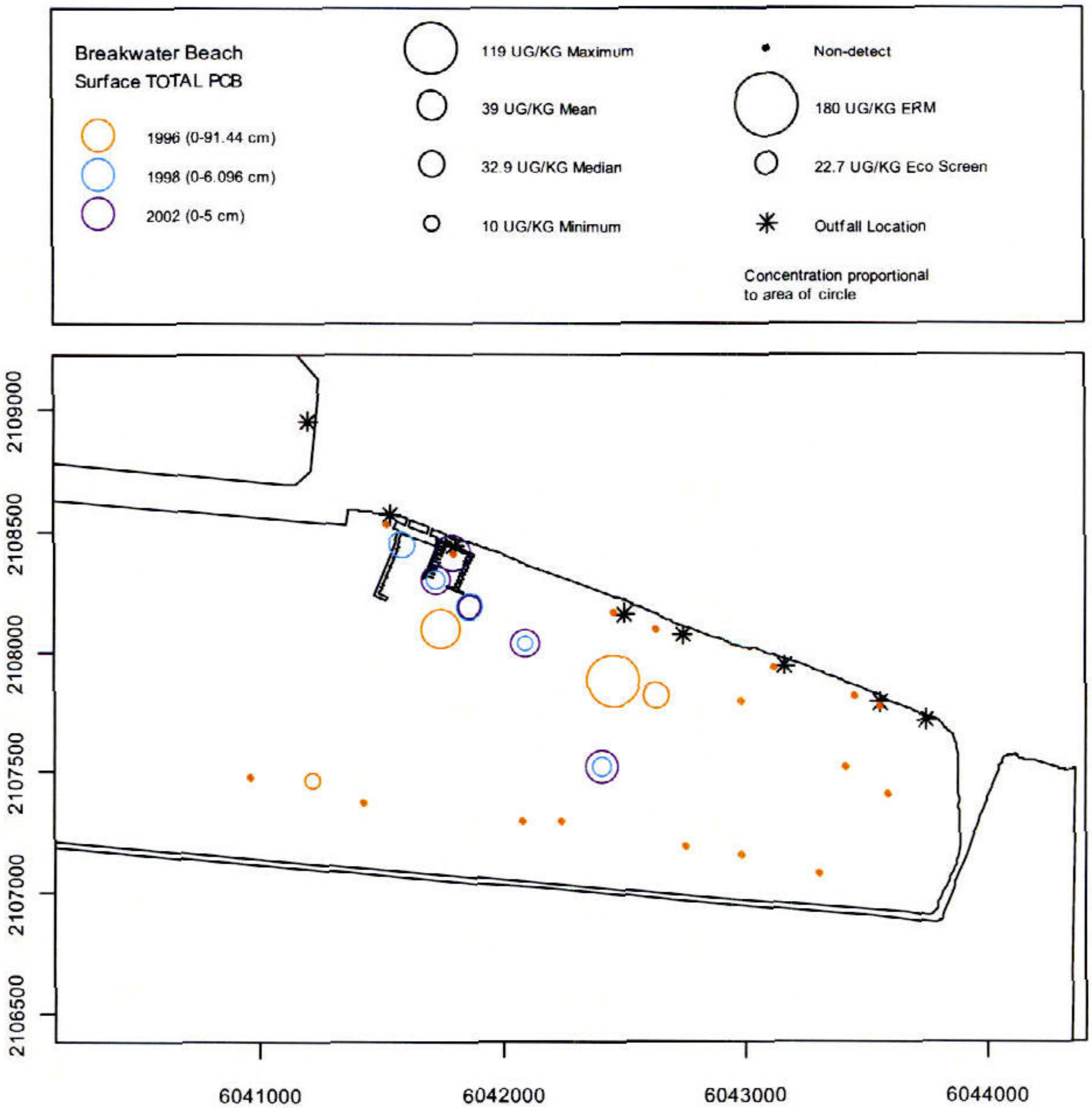
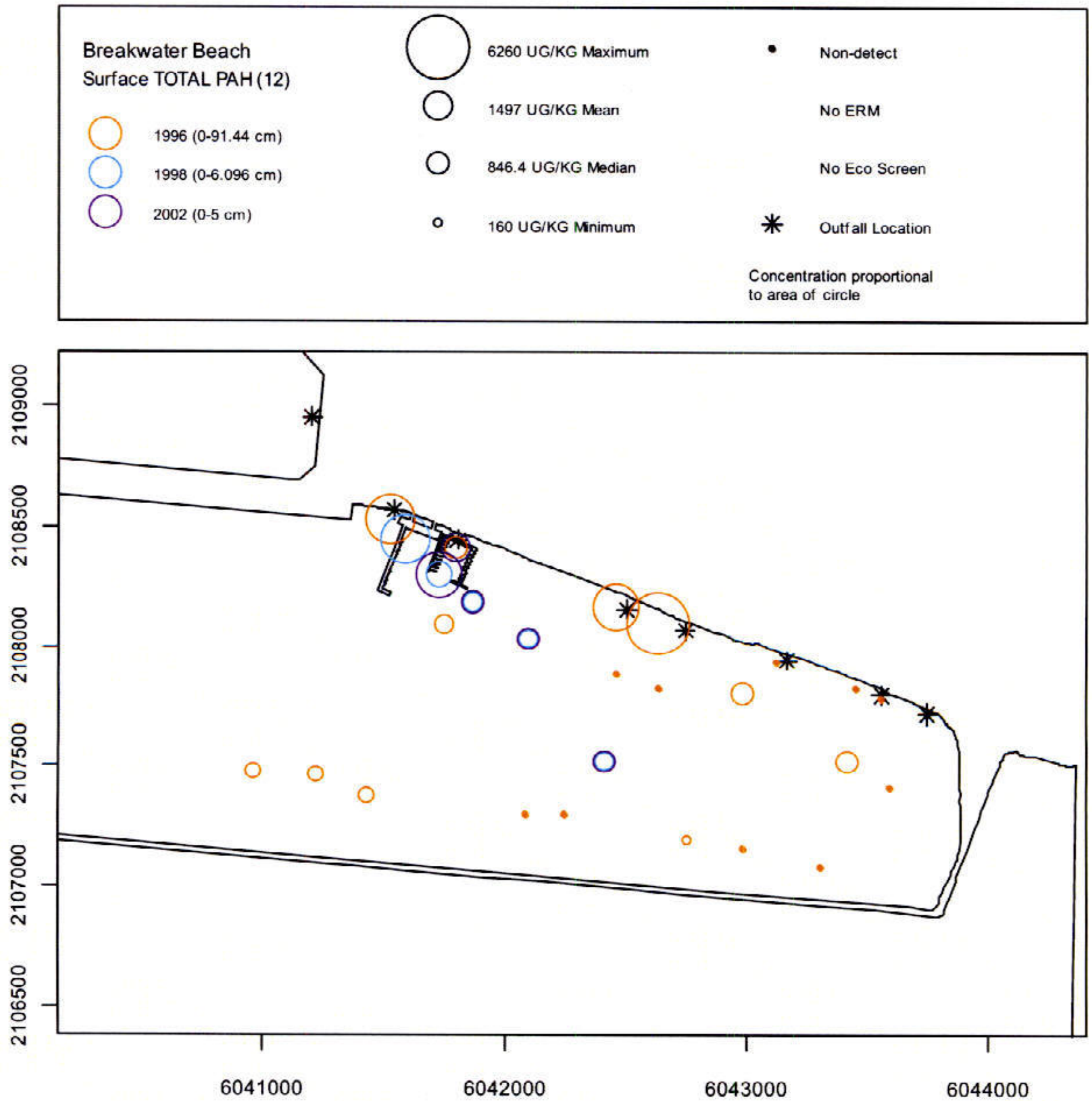


Figure 4-15. Bubble Plots of Total PCB Concentrations in Breakwater Beach



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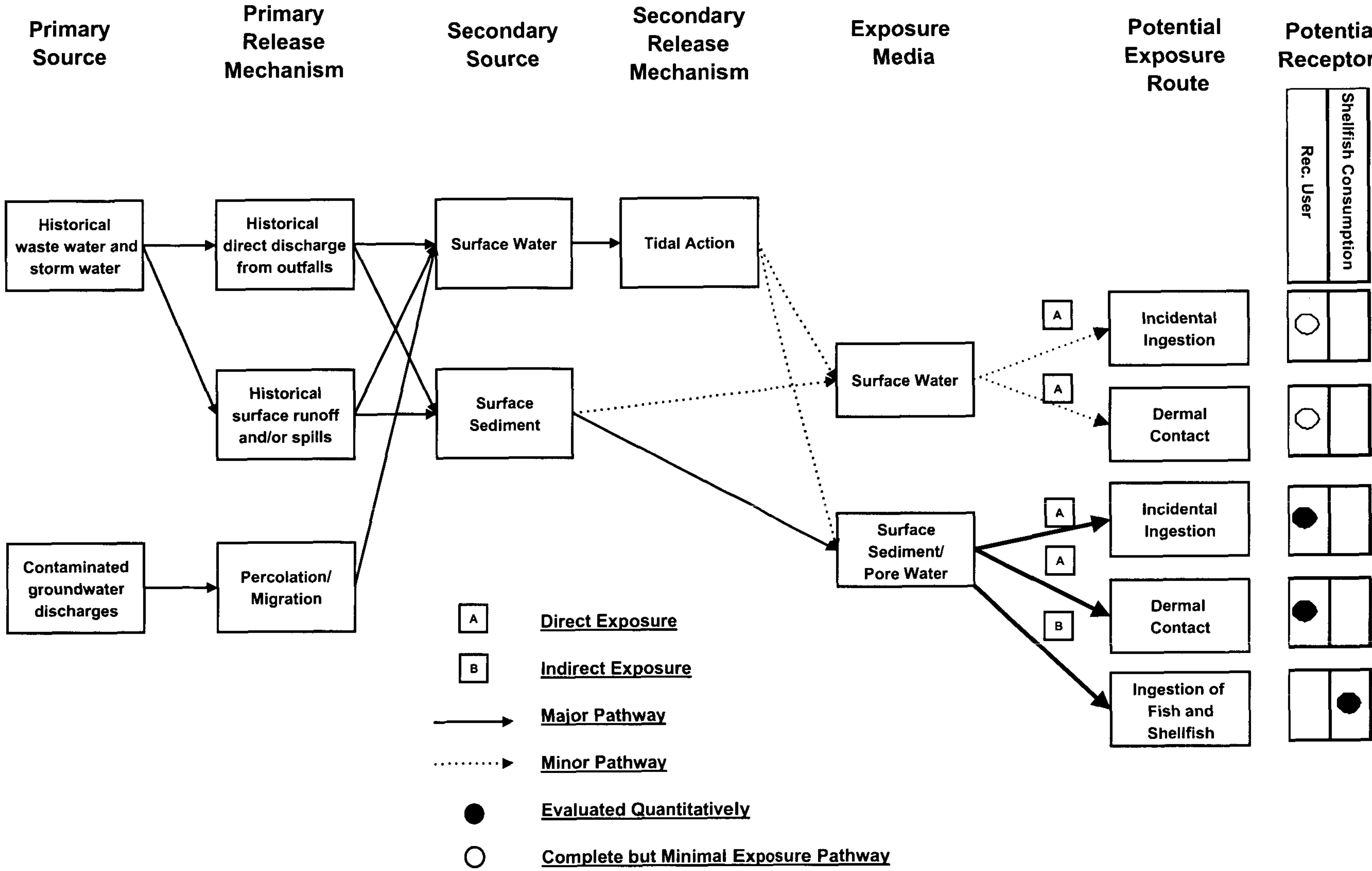
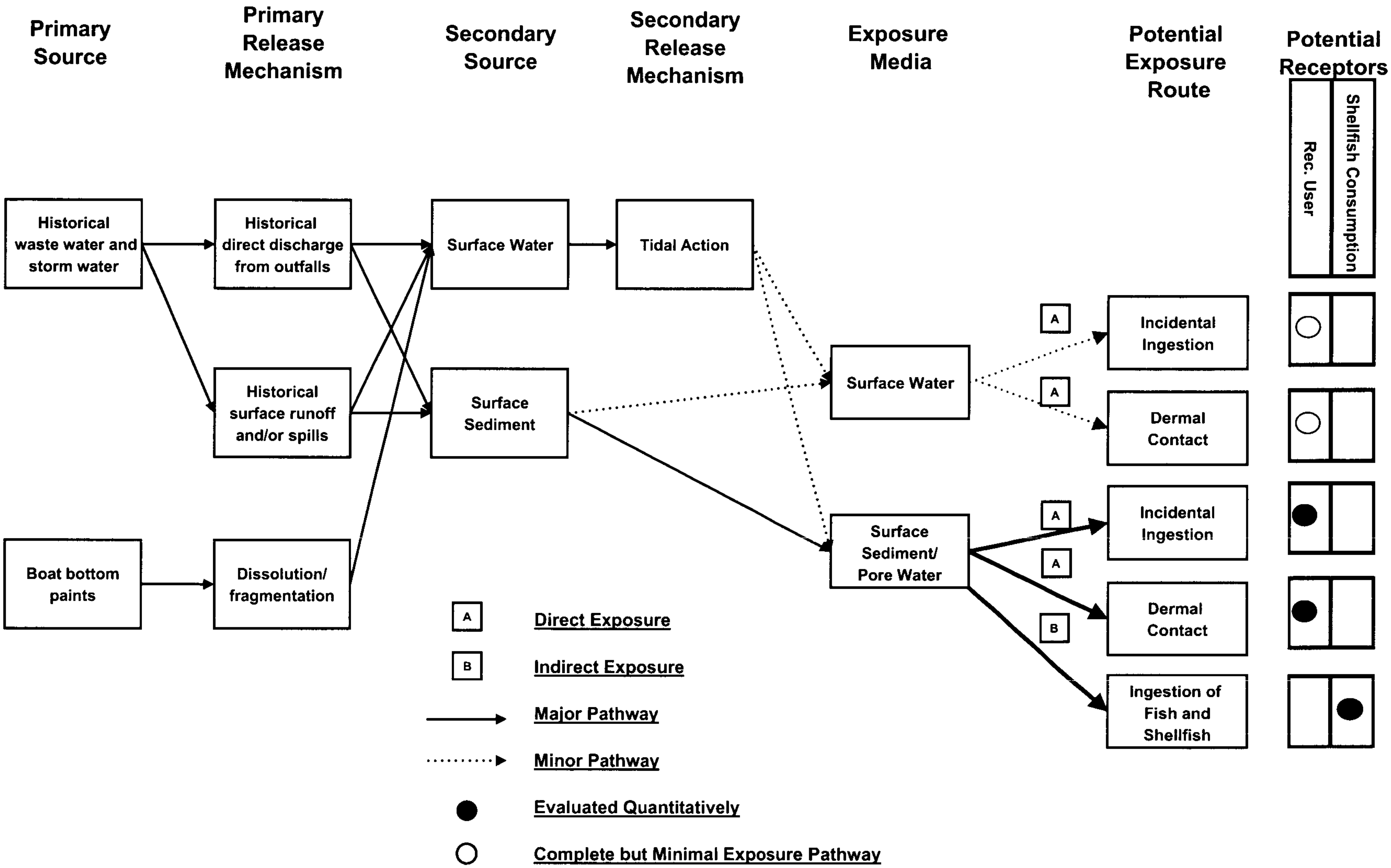


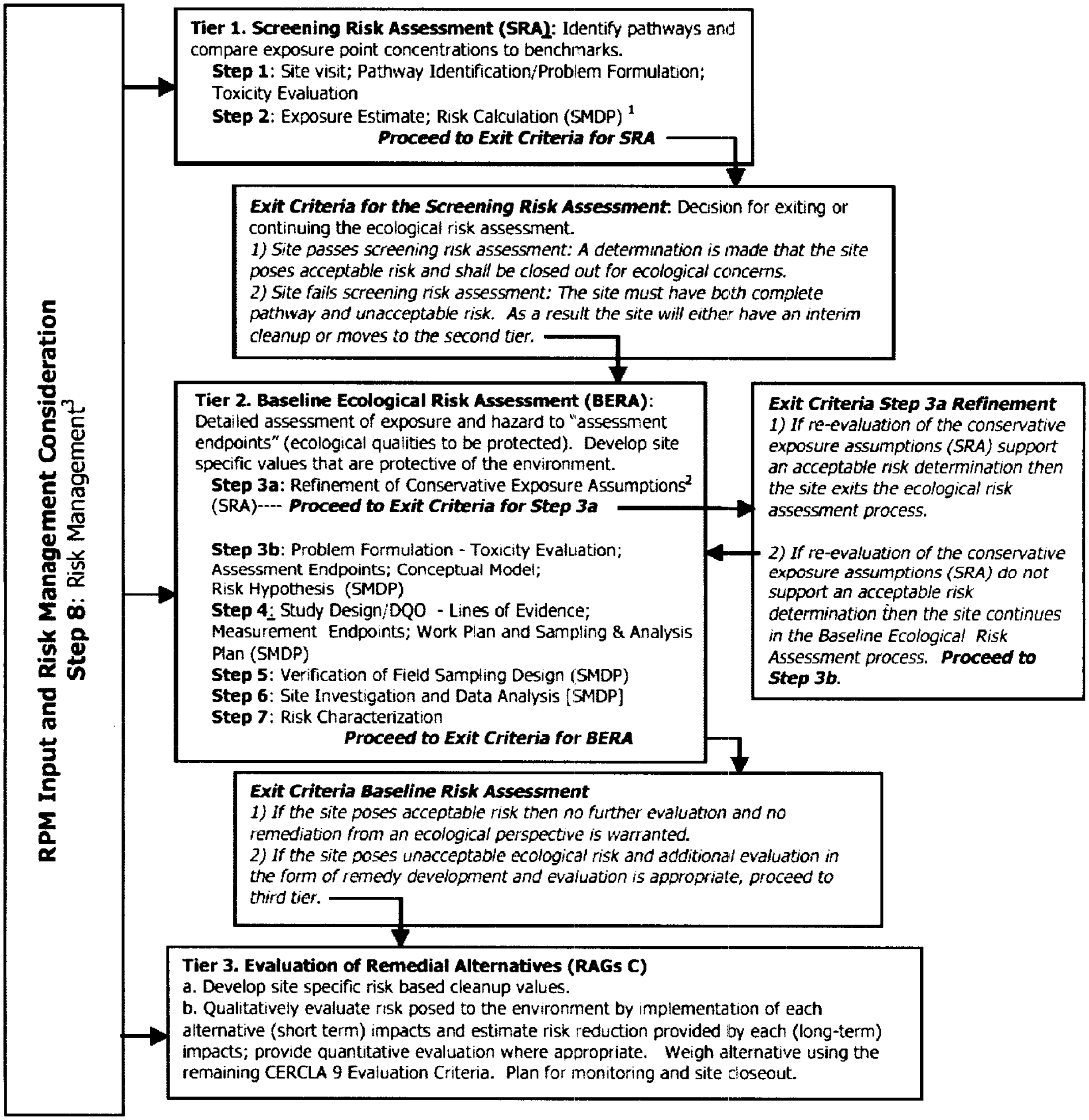
Note: Incomplete exposure pathway is indicated by a blank receptor cell.

Figure 5-1. Human Health Conceptual Site Model for Western Bayside



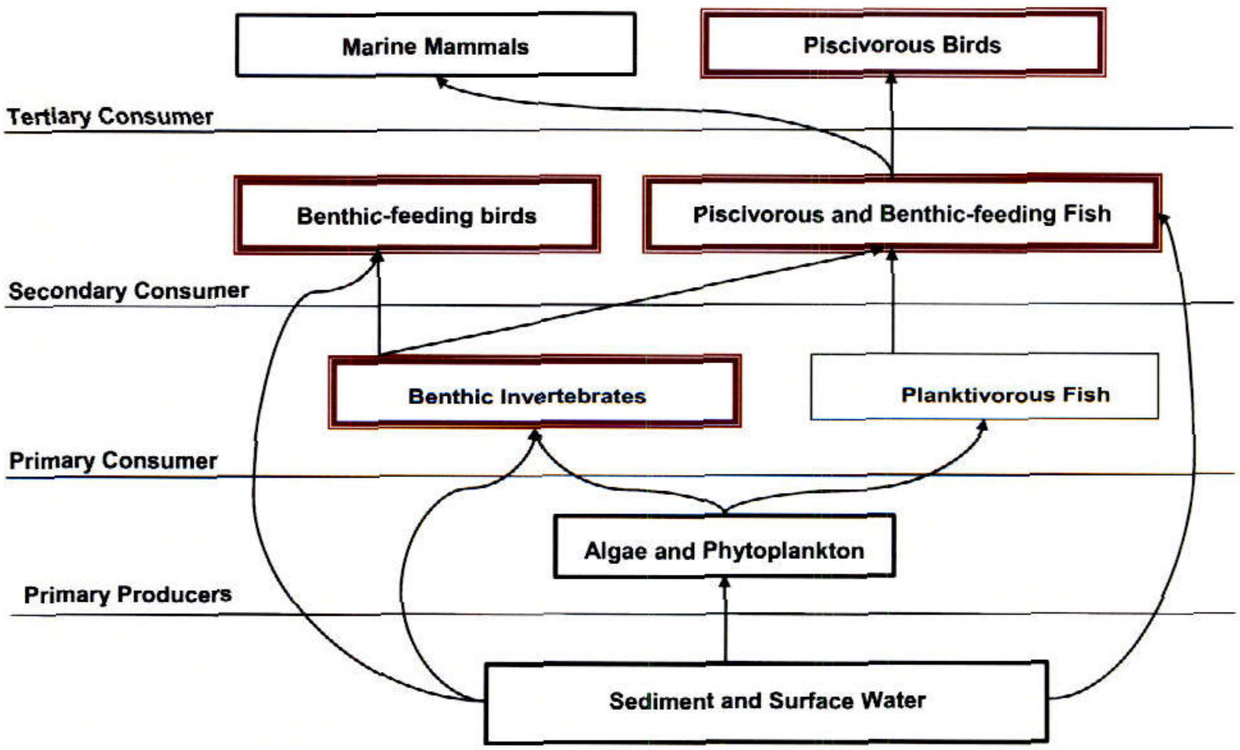
Note: Incomplete exposure pathway is indicated by a blank receptor cell.

Figure 5-2. Human Health Conceptual Site Model for Breakwater Beach



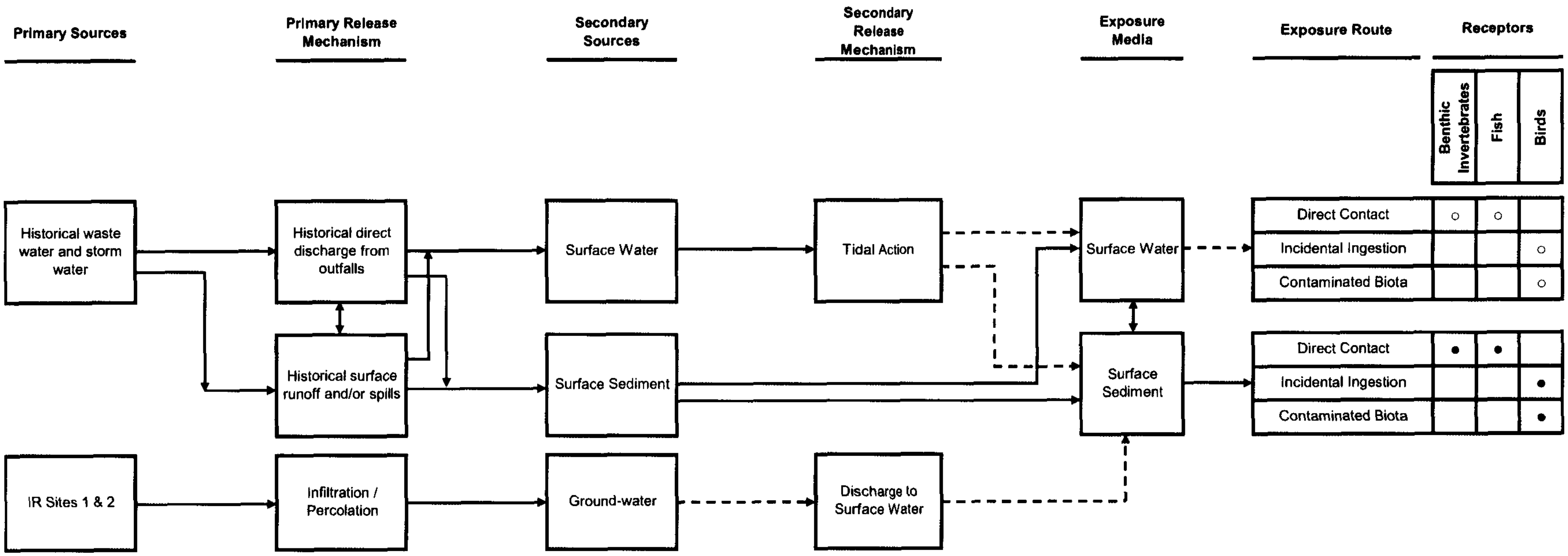
Notes: 1) See EPA's 8 Step ERA Process for requirements for each Scientific Management Decision Point (SMDP).
2) Refinement includes but is not limited to background, bioavailability, detection frequency, etc.
3) Risk Management is incorporated throughout the tiered approach.

Figure 6-1. Overview of Ecological Risk Assessment Process (from CNO, 1999)



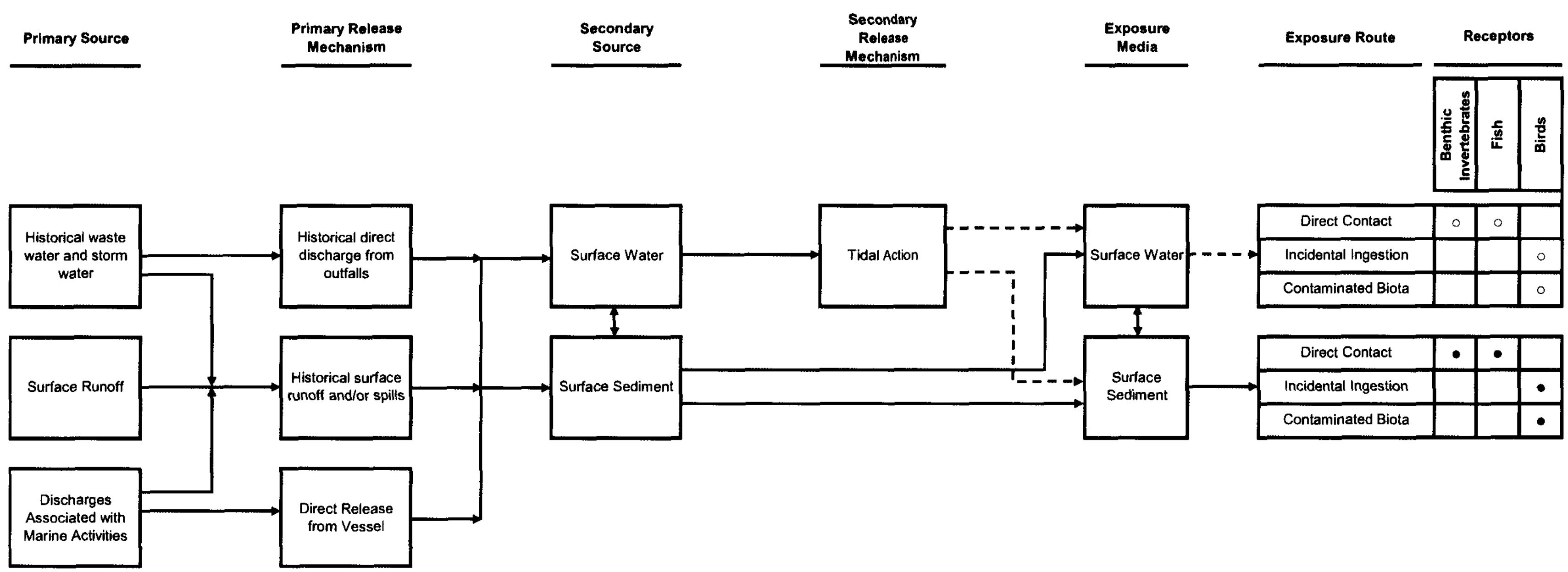
Note: Bold boxes are the trophic groups evaluated quantitatively in the ecological risk assessment.

Figure 6-2. Conceptual Food Web for the Offshore Areas of Alameda Point



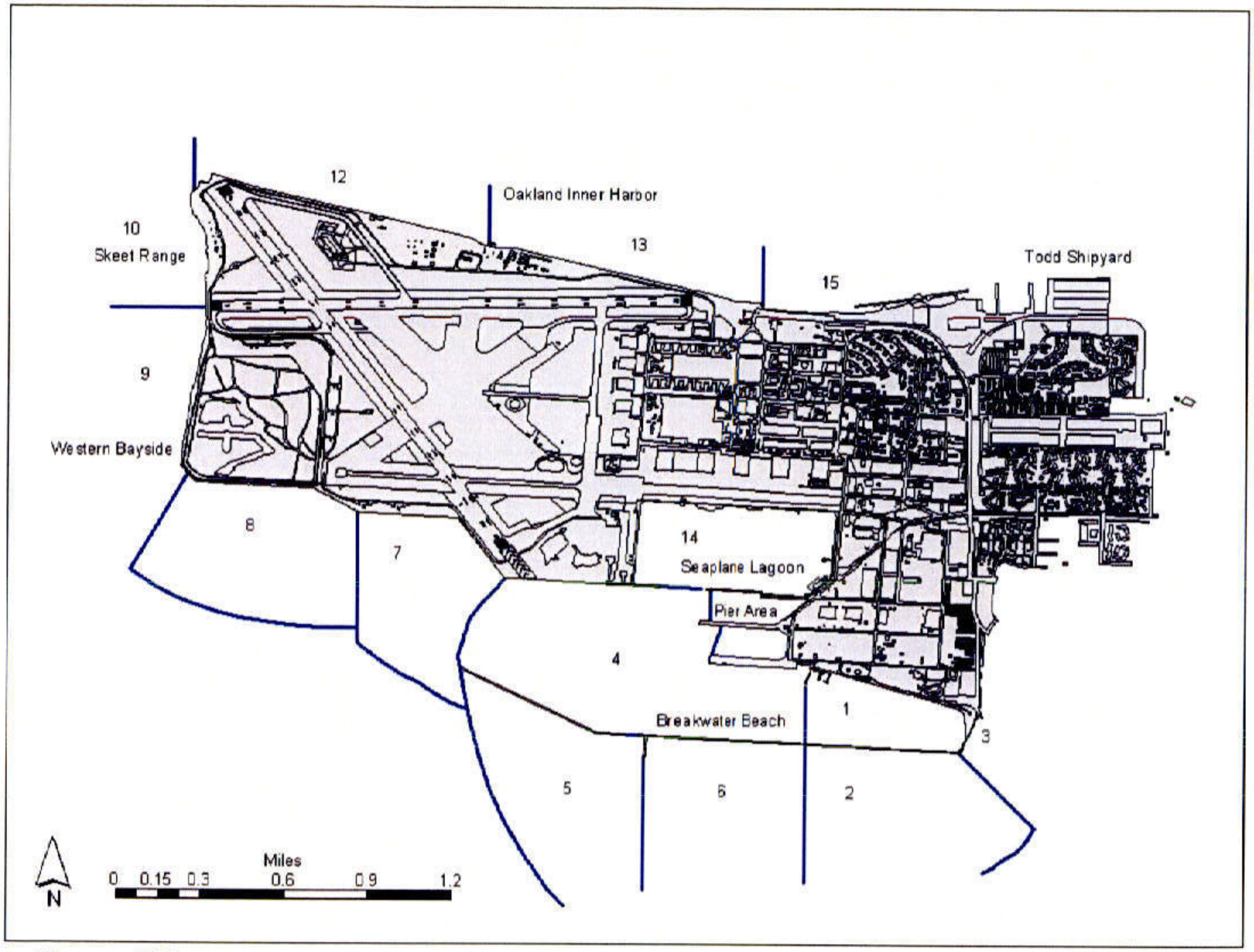
Explanation:
- ○ Potentially complete exposure pathway, bur exposure is insignificant.
- ● Potentially complete exposure pathway, evaluated quantitatively.
- ⟶ Major exposure pathway
- - -> Minor exposure pathway

Figure 6-3. Ecological Conceptual Site Model for Western Bayside



Explanation:
- ○ Potentially complete exposure pathway, bur exposure is insignificant.
- ● Potentially complete exposure pathway, evaluated quantitatively.
- ⟶ Major exposure pathway
- - -➤ Minor exposure pathway

Figure 6-4. Ecological Conceptual Site Model for Breakwater Beach



Source: Collins and Feeney, 1995.

Figure 6-5. Least Tern Study Areas Around Alameda Point

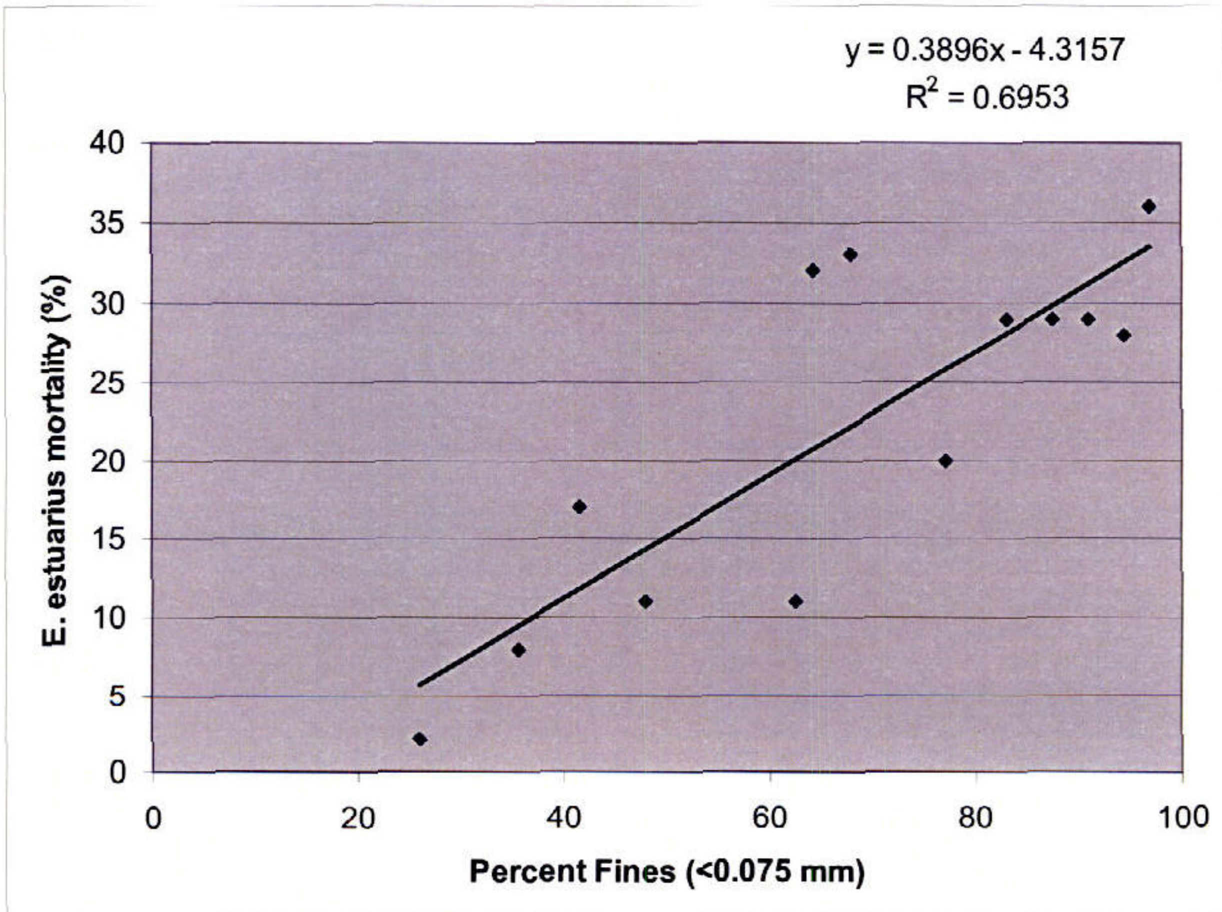


Figure 6-6. ***E. estuarius*** **Mortality versus Grain Size in Western Bayside Samples**

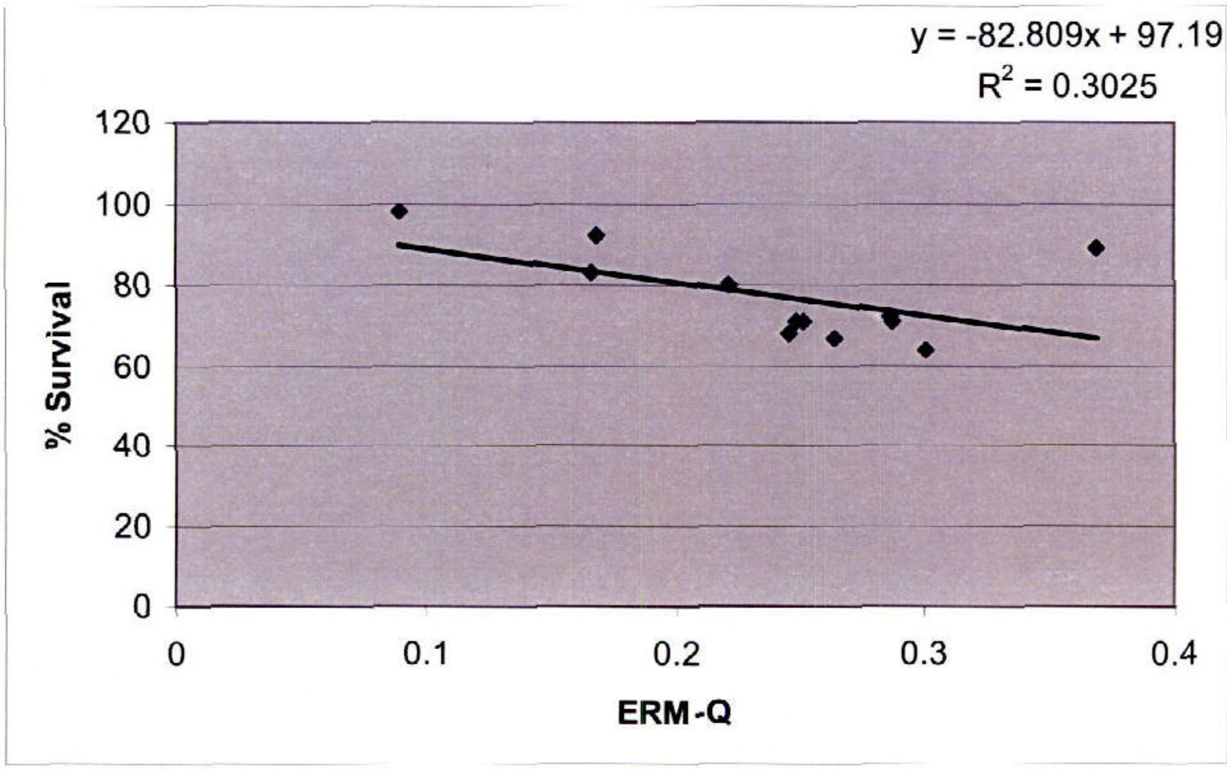
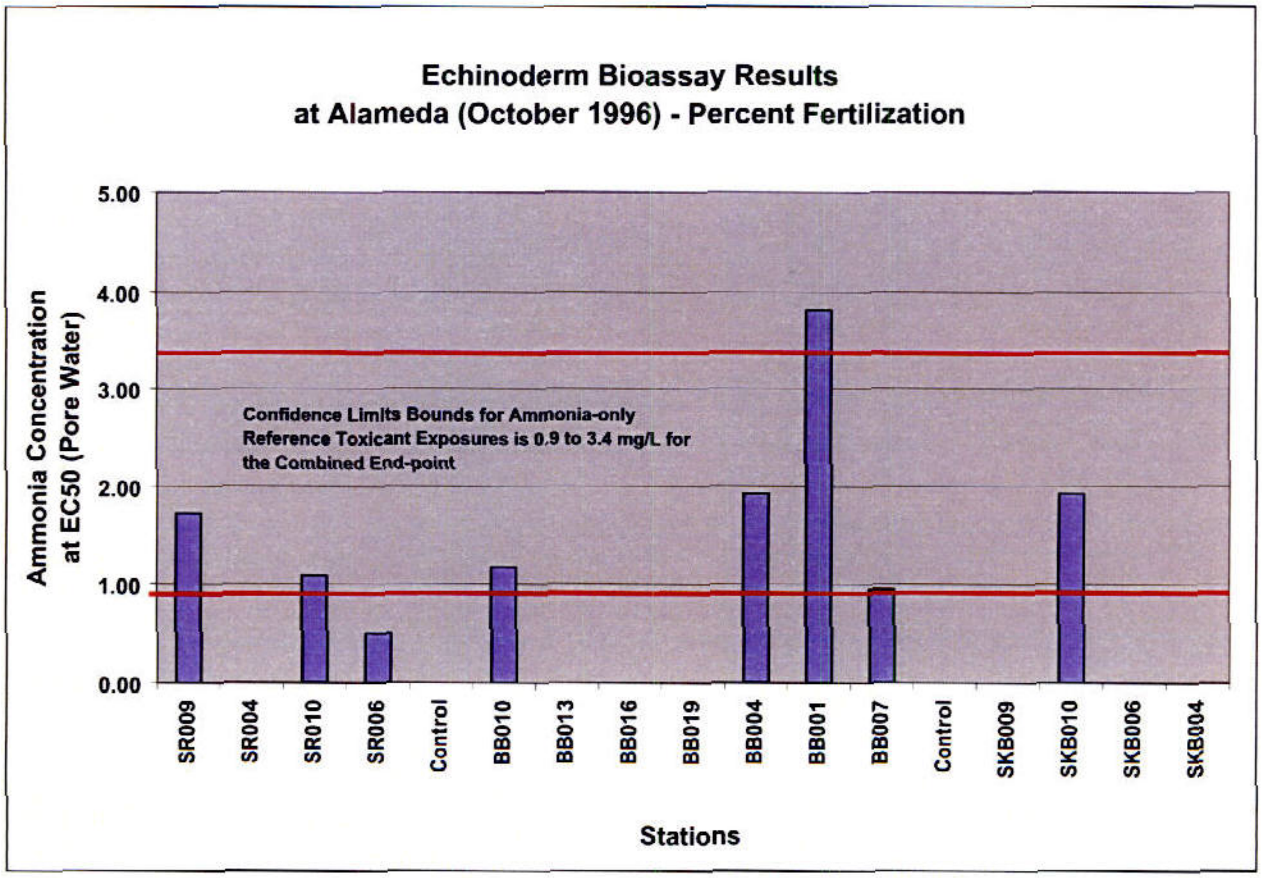


Figure 6-7. Percent Survival of *E. estuarius* versus ERM Quotient in Western Bayside Sediment



Note: Stations labeled BB are the Breakwater Beach data.

Figure 6-8. Concentration of Ammonia at Pore Water EC50 Concentrations for 1996 Sea Urchin Fertilization Results

TABLES

LIST OF TABLES

Table 1-1. Historical Summary of the Offshore Areas at Alameda Point, Including Potential Sources and Releases

Dates	Events
1890s to 1902	• Wetlands were filled on the western half of Alameda Island with marine sediment dredged from San Francisco Bay. • San Antonio Channel (currently Oakland Inner Harbor) was constructed, and Alameda Point peninsula was developed.
Early 1900s	• Pacific Coast Oil Works refinery operated at IR Site 13 in southeastern portion of Alameda Point. • Petroleum wastes were discharged directly to San Francisco Bay.
1920s to 1930	• Borax plant operated in the southeastern portion of Alameda Point.
1930 through 1960s	• Development of Alameda Point continued by the U.S. Army (1930) and the DON (beginning in 1936). • Industrial facilities and infrastructure were constructed, including storm-sewer system. • Pipelines were placed directly on fill with no bedding material and industrial discharges plumbed directly to storm-sewer system, including metal fabrication and plating, parts painting, and engine rebuilding. • Natural subsidence and seismic events led to pipeline cracks, leaks, displacement, and groundwater infiltration. • Sediment and debris (such as rocks and roots) accumulated in storm-sewer system.
1970s	• Natural subsidence and seismic events continued leading to storm-sewer pipeline cracks, leaks, and displacement. • Releases continued to storm-sewer system through floor drains, spills, and nonpoint sources. • Accumulation of sediment and debris continued in storm-sewer system.
1980s	• Releases continued to storm-sewer system through floor drains, spills, and nonpoint sources. • Accumulation of sediment and debris continued in storm-sewer system. • Natural subsidence and seismic events continued leading to pipeline cracks, leaks, and displacement.

Table 3-1. Summary of Available Data from Western Bayside Sampling Locations

Station	Year	Sample Type: Grab	Sample Type: Core	Toxicity Tests[a]	Bioaccumulation Tests	Sediment Chemistry Parameters: GS	TOC	Oil and Grease	TPH	PAH	SVOC	PCB Aroclors	PCB Cong	2,4'-DDx	4,4'-DDx	Pest	Total Metals	Rad[b]	OTin	pH	Ammonia	Salinity	BOD	AVS	Sulfide	Percent Moisture	Percent Solids	Tissue Chemistry Parameters: PAH	SVOC	PCB Aroclor	PCB Cong	2,4'-DDx	4,4'-DDx	Pest	Total Metals	Percent Moisture	OTin
B01	1993/1994	Y	N	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B02	1993/1994	Y	Y	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B03	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B04	1993/1994	Y	Y	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B05	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B06	1993/1994	Y	Y	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B07	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B08	1993/1994	Y	Y	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B09	1993/1994	Y	Y	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B11	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B12	1993/1994	Y	Y	E,N,Me	-	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
B13	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
B14	1993/1994	Y	N	E,N,Me	Laboratory tests with *Macoma*	Y	Y	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y	-	-	-	-	-	-	Y	-	Y	Y	Y	-	-	Y	Y	Y	Y	Y
WB001	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB002	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB003	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
WB004	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB005	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB006	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB007	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
WB008	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB009	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
WB010	1996	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB011	1996	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB012	1996	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB013	1996	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB014	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB016	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB017	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB018	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
WB019	1996	Y	N	-	-	-	-	-	-	-	-	Y	-	-	Y	Y	-	-	-	Y	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
SS001	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
SS002	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
SS006	1996	Y	N	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
WBC-1	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-2	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-3	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-4	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-5	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-6	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-7	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-8	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-9	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-10	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-11	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-12	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-13	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-14	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-15	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-16	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-17	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-18	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-19	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-20	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-21	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBC-22	2005	Y	Y	-	-	Y	Y	-	-	Y	-	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(a) E = *Eohaustorius estuarius* 10-day bulk sediment bioassay to evaluate percent survival; N = *Neanthes arenaceodentata* 28-day bulk sediment bioassay to evaluate percent survival and percent growth; Me = *Mytilus edulis* embryo development test to evaluate percent survival and percent normal of larvae development.

\- = sample not collected or parameter not analyzed.

Y = Yes; N = No; GS = Grain Size; TOC = Total Organic Carbon; TPH = total petroleum hydrocarbons; PAH = polycyclic aromatic hydrocarbon; SVOC = semivolatile organic compound; PCB Cong = PCB congeners; Pest = pesticides; Rad = radionuclides; OTin = organotins; BOD = biochemical oxygen demand; AVS = acid volatile sulfides.

(b) Radionuclides analyzed in 1993/1994 included gross *alpha* radiation and gross *beta* radiation. Radionuclides analyzed in 2005 included radium-226 and radium-228.

Table 3-2. Summary of Available Data from Breakwater Beach Sampling Locations

Station	Year	Sample Type		Toxicity Tests[a]	Bioaccumulation Tests	Sediment Chemistry Parameters																						Tissue Chemistry Parameters									
		Grab	Core			GS	TOC	Oil and Grease	TPH	PAH	SVOC[b]	PCB Aroclors	PCB Cong	2,4'-DDx	4,4'-DDx	Pest	Total Metals	Rad[c]	Otin	pH	Ammonia	Salinity	BOD	AVS	Sulfide	Percent Moisture	Percent Solids	PAH	SVOC	PCB Aroclor	PCB Cong	2,4'-DDx	4,4'-DDx	Pest	Total Metals	Percent Moisture	Otin
BB001	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB002	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB003	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB004	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB005	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB006	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB007	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB008	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB009	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB010	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB011	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB012	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB013	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB014	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB015	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB016	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB017	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB018	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB019	1996	Y	Y	E,N,Spp	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB020	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB021	1996	N	Y	-	-	-	Y	-	Y	Y	Y	Y	-	-	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-
BB022	1996	N	N	-	Field-collected *Mytilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y
BB023	1996	N	N	-	Field-collected *Mytilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y
BB024	1996	N	N	-	Field-collected *Mytilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y
BB027	1996	N	N	-	Field-collected *Mytilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	-	-	Y	Y	Y	-	Y
BW01	1998	Y	N	E,N,Sps	Laboratory tests with *Macoma*	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y
BW02	1998	Y	N	E,N,Sps	Laboratory tests with *Macoma*	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y
BW03	1998	Y	N	E,N,Sps	Laboratory tests with *Macoma*	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y
BW04	1998	Y	N	E,N,Sps	Laboratory tests with *Macoma*	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y
BW05	1998	Y	N	E,N,Sps	Laboratory tests with *Macoma*	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	Y	Y	Y	Y	Y
BB004	2002	Y	N	E	-	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
BW02	2002	Y	N	E	-	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
BW03	2002	Y	N	E	-	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
BW04	2002	Y	N	E	-	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-
BS05	2002	Y	N	E	-	Y	Y	-	-	Y	Y	-	Y	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	-

(a) Spp = *Strongylocentrotus purpuratus* porewater test to evaluate fertilization success; E = *Eohaustorius estuarius* 10-day bulk sediment bioassay to evaluate percent survival; N = *Neanthes arenaceodentata* 28-day bulk sediment bioassay to evaluate percent survival and percent growth; Sps = *Strongylocentrotus purpuratus* sediment water interface (SWI) test to evaluate percent normal larvae development.
(b) 1998 stations BW01, BW02, BW03, BW04, and BW05 were analyzed for only hexachlorobutadiene as the SVOC analysis.
- = sample not collected or parameter not analyzed.
Y = Yes; N = No; GS = Grain Size; TOC = Total Organic Carbon; TPH = total petroleum hydrocarbons; PAH = polycyclic aromatic hydrocarbon; SVOC = semivolatile organic compound; PCB Cong = PCB congeners; Pest = pesticides; Rad = radionuclides; OTin = organotins; BOD = biochemical oxygen demand; AVS = acid volatile sulfides.
(c) Radium samples collected in 1996 were not usable for evaluating risk, but the low concentrations and lack of a source for radium at Breakwater Beach were considered during preparation of the work plan for the 2005 sampling event (Battelle et al., 2005b). During development of the Offshore Sediment Study Work Plan, the regulatory agencies agreed that no additional sampling was required at Breakwater Beach.

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside

Analyte	1993/4			1996			2005			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	12/12	8.167	39.33	1/10	[0.39]	0.86	4/22	[0.015]	0.31	2[f]	NA	25	410
ARSENIC	12/12	3.7	12.33	8/10	[1.15]	4.1	22/22	2.39	5.85	8.2	15.3	70	0.25
CADMIUM	3/12	[0.125]	0.214	0/10	[0.025]	[0.03]	21/22	[0.0245]	0.306	1.2	0.33	9.6	450
CHROMIUM	12/12	95	157.5	10/10	23.9	38	22/22	27.2	89.8	81	112	370	450
COPPER	12/12	9.8	47.67	10/10	5.1	24	22/22	4.48	32.3	34	68.1	270	41000
LEAD	12/12	6.667	25.75	10/10	6	26.2	22/22	3.4	30.8	46.7	43.2	218	800
MERCURY	12/12	0.145	0.847	6/10	[0.015]	0.12	21/21	0.0075	0.366	0.15	0.43	0.71	310
NICKEL	12/12	30.67	90	10/10	21.1	35.1	22/22	18.4	55.8	20.9	112	51.6	20000
SELENIUM	3/12	[0.125]	0.275	0/10	[0.375]	[0.46]	0/22	[0.06]	[0.185]	0.7[f]	0.64	1.4	5100
SILVER	0/12	[0.25]	[0.25]	0/10	[0.075]	[0.09]	22/22	0.021	1.17	1	0.58	3.7	5100
ZINC	12/12	38	130	10/10	26.3	65.9	22/22	16.3	80.4	150	158	410	100000
Pesticides and PCBs (µg/kg)													
Total PCB[g]	3/12	13	144.5	4/17	13	54	21/21	2.14	45.26	22.7	200[h]	180	NA
Total 4,4-DDx[i]	4/12	[4.463]	20.94	2/17	[3]	14.5	21/21	0.435	12.79	1.58	7	46.1	NA
Total DDx	0/0	NA	NA	0/0	NA	NA	21/21	0.51	15.96	NA	NA	NA	NA
2,4'-DDD	0/0	NA	NA	0/0	NA	NA	4/21	[0.02]	2.58	NA	NA	NA	10000
2,4'-DDE	0/0	NA	NA	0/0	NA	NA	2/21	[0.015]	0.57	NA	NA	NA	7000
2,4'-DDT	0/0	NA	NA	0/0	NA	NA	2/21	[0.02]	1.03	NA	NA	NA	7000
4,4'-DDD	2/12	[1.35]	14.15	1/17	[1]	2.3	21/21	0.33	6.36	2[f]	NA	20	10000
4,4'-DDE	2/12	[1.35]	5.263	1/17	[1]	1.2	20/21	[0.015]	2.61	2.2	NA	27	7000
4,4'-DDT	1/12	[1.488]	2.133	2/17	[1]	11	18/21	[0.015]	3.82	1	NA	7	7000
ALDRIN	0/12	[0.375]	[6.75]	0/17	[0.5]	[3.15]	1/21	[0.01]	0.31	0.2[j]	NA	NA	100
ALPHA-BHC	0/12	[0.3333]	[52.33]	0/17	[0.5]	[3.15]	1/21	[0.02]	0.4	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	0/12	[0.3333]	[0.7]	1/17	[0.5]	2.2	4/21	[0.015]	1.42	0.5[f]	NA	6	6500
DIELDRIN	0/12	[0.7375]	[11.92]	0/17	[1]	[6]	3/21	[0.015]	1.13	0.02[f]	0.44	8	110
ENDOSULFAN I	0/12	[0.6833]	[1.35]	0/17	[0.5]	[3.15]	0/21	[0.015]	[0.02]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	0/12	[0.6833]	[1.35]	0/17	[1]	[6]	1/21	[0.055]	0.43	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/12	[0.6833]	[1.35]	0/17	[1]	[6]	0/21	[0.125]	[0.205]	NA	NA	NA	3700000

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside (continued)

Analyte	1993/4 D/N[a]	1993/4 Min	1993/4 Max[r]	1996 D/N	1996 Min	1996 Max[r]	2005 D/N	2005 Min	2005 Max[r]	Threshold Values: Eco Screen[b]	Threshold Values: Ambient[c]	Threshold Values: ER-M[d]	Threshold Values: PRG Industrial[e]
ENDRIN	0/12	[0.7375]	[11.92]	0/17	[1]	[6]	0/21	[0.015]	[0.025]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/12	[1.35]	[63.35]	0/17	[1]	[6]	1/21	[0.025]	1.49	NA	NA	NA	180000
GAMMA-BHC	0/12	[0.375]	[43.02]	0/17	[0.5]	[3.15]	1/21	[0.015]	0.49	0.32[l]	NA	NA	1700
GAMMA-CHLORDANE	0/12	[0.3333]	[0.7]	0/17	[0.5]	[3.15]	5/21	[0.015]	1.66	0.5	NA	6	6500
HEPTACHLOR	0/12	[0.4725]	[6.75]	0/17	[0.5]	[3.15]	1/21	[0.01]	0.22	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/12	[0.3333]	[0.7]	0/17	[0.5]	[3.15]	1/21	[0.015]	0.3	NA	NA	NA	190
PAHs (µg/kg)													
2-METHYLNAPHTHALENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.14	7.8	70	19.4	670	NA
ACENAPHTHENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.06]	37	16	26.6	500	29000000
ACENAPHTHYLENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.12	17	44	31.7	640	NA
ANTHRACENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.19]	240	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	2/12	[56.67]	89.25	0/6	[100]	[125]	22/22	0.78	310	261	244	1600	2100
BENZO(A)PYRENE	10/12	[58.33]	240	2/6	[100]	140	22/22	1.4	530	430	412	1600	210
BENZO(B)FLUORANTHENE	12/12	81.67	287.5	1/6	[100]	240	22/22	1.1	430	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	11/12	[58.33]	225	0/6	[100]	[125]	22/22	1.5	400	290[m]	310	NA	NA
BENZO(K)FLUORANTHENE	2/12	[56.67]	86.75	0/6	[100]	[125]	22/22	0.87	340	24[j]	258	NA	1300
CHRYSENE	6/12	[56.67]	152.5	2/6	100	110	22/22	1	600	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.06]	78	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	20/22	[0.075]	9.8	2290[n]	NA	NA	1600000
FLUORANTHENE	11/12	[63.33]	412.5	3/6	[100]	120	22/22	1.9	610	600	514	5100	22000000
FLUORENE	0/12	[26.25]	[42]	0/6	[100]	[125]	21/22	[0.055]	32	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	7/12	[58.33]	205	0/6	[100]	[125]	22/22	1.3	460	78[n]	382	NA	2100
NAPHTHALENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.37	22	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	5/12	[50]	205	0/6	[100]	[125]	22/22	0.73	120	240	237	1500	NA
PYRENE	12/12	101.7	430	4/6	[100]	150	22/22	2.5	470	665	665	2600	29000000
Total LPAH (6)[o]	5/12	[276.3]	567	0/6	[600]	[750]	22/22	1.585	432	NA	NA	3160	NA
Total HPAH (6)[p]	12/12	445	1263	4/6	[600]	760	22/22	7.64	2525	1700	3060	9600	NA

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside (continued)

Analyte	1993/4 D/N[a]	1993/4 Min	1993/4 Max[r]	1996 D/N	1996 Min	1996 Max[r]	2005 D/N	2005 Min	2005 Max[r]	Threshold Values: Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Organotins (µg/kg)													
TRIBUTYL TIN	9/12	[2.5]	17	0/6	[1]	[1.2]	17/22	[0.035]	3	25.1[q]	NA	NA	180000
Radionuclides (pCi/g)													
RADIUM-226	0/0	NA	NA	0/0	NA	NA	1/8	[0.025]	0.2	NA	NA	NA	NA
RADIUM-228	0/0	NA	NA	0/0	NA	NA	2/8	[0.13]	1.34	NA	NA	NA	NA

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data)

Analyte	0-5 cm			5-25 cm			25-50 cm			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	4/22	[0.015]	0.31	4/22	[0.015]	0.29	6/22	[0.02]	0.28	2[f]	NA	25	410
ARSENIC	22/22	2.39	5.85	22/22	1.9	6.62	22/22	1.49	8.71	8.2	15.3	70	0.25
CADMIUM	21/22	[0.0245]	0.306	21/22	[0.015]	0.952	21/22	[0.023]	0.597	1.2	0.33	9.6	450
CHROMIUM	22/22	27.2	89.8	22/22	28.9	88.8	22/22	29.9	100	81	112	370	450
COPPER	22/22	4.48	32.3	22/22	4.96	36.1	22/22	6.3	136	34	68.1	270	41000
LEAD	22/22	3.4	30.8	22/22	3.68	32.2	22/22	2.72	91.1	46.7	43.2	218	800
MERCURY	21/21	0.0075	0.366	22/22	0.0184	0.499	21/21	0.0118	0.533	0.15	0.43	0.71	310
NICKEL	22/22	18.4	55.8	22/22	19.8	65.6	22/22	23.8	63.1	20.9	112	51.6	20000
SELENIUM	0/22	[0.06]	[0.185]	0/22	[0.06]	[0.21]	0/22	[0.065]	[0.195]	0.7[f]	0.64	1.4	5100
SILVER	22/22	0.021	1.17	22/22	0.023	0.441	21/22	[0.0075]	0.803	1	0.58	3.7	5100
ZINC	22/22	16.3	80.4	22/22	15.9	85.5	22/22	17.2	76.9	150	158	410	100000
Pesticides and PCBs (µg/kg)													
Total PCB[g]	21/21	2.14	45.26	22/22	0.56	71.18	19/22	4.06	96.54	22.7	200[h]	180	NA
Total 4,4-DDx[i]	21/21	0.435	12.79	21/22	[0.045]	5.6	20/22	[0.045]	18.14	1.58	7	46.1	NA
Total DDx	21/21	0.51	15.96	21/22	[0.1]	6.57	20/22	[0.105]	19.58	NA	NA	NA	NA
2,4'-DDD	4/21	[0.02]	2.58	5/22	[0.015]	1.99	7/22	[0.02]	1.72	NA	NA	NA	10000
2,4'-DDE	2/21	[0.015]	0.57	1/22	[0.01]	0.56	4/22	[0.015]	0.45	NA	NA	NA	7000
2,4'-DDT	2/21	[0.02]	1.03	5/22	[0.02]	0.74	2/22	[0.02]	0.36	NA	NA	NA	7000
4,4'-DDD	21/21	0.33	6.36	21/22	[0.02]	3.02	19/22	[0.02]	4.63	2[f]	NA	20	10000
4,4'-DDE	20/21	[0.015]	2.61	21/22	[0.01]	1.89	19/22	[0.01]	1.96	2.2	NA	27	7000
4,4'-DDT	18/21	[0.015]	3.82	16/22	[0.015]	0.97	10/22	[0.015]	13.33	1	NA	7	7000
ALDRIN	1/21	[0.01]	0.31	0/22	[0.01]	[0.02]	0/22	[0.01]	[0.02]	0.2[j]	NA	NA	100
ALPHA-BHC	1/21	[0.02]	0.4	0/22	[0.015]	[0.035]	0/22	[0.02]	[0.03]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	4/21	[0.015]	1.42	6/22	[0.015]	0.48	2/22	[0.015]	0.19	0.5[f]	NA	6	6500
DIELDRIN	3/21	[0.015]	1.13	7/22	[0.01]	0.72	4/22	[0.015]	0.77	0.02[f]	0.44	8	110
ENDOSULFAN I	0/21	[0.015]	[0.02]	0/22	[0.01]	[0.025]	1/22	[0.015]	0.45	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/21	[0.055]	0.43	3/22	[0.05]	0.4	2/22	[0.055]	0.42	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/21	[0.125]	[0.205]	0/22	[0.115]	[0.22]	0/22	[0.125]	[0.21]	NA	NA	NA	3700000

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data) (continued)

	0-5 cm			5-25 cm			25-50 cm			Threshold Values			
Analyte	D/N[(a)]	Min	Max[(r)]	D/N	Min	Max[(r)]	D/N	Min	Max[(r)]	Eco Screen[(b)]	Ambient[(c)]	ER-M[(d)]	PRG Industrial[(e)]
ENDRIN	0/21	[0.015]	[0.025]	0/22	[0.015]	[0.025]	0/22	[0.015]	[0.025]	0.02[(f)]	NA	45	180000
ENDRIN ALDEHYDE	1/21	[0.025]	1.49	2/22	[0.02]	0.82	1/22	[0.025]	0.88	NA	NA	NA	180000
GAMMA-BHC	1/21	[0.015]	0.49	0/22	[0.01]	[0.025]	0/22	[0.015]	[0.02]	0.32[(l)]	NA	NA	1700
GAMMA-CHLORDANE	5/21	[0.015]	1.66	7/22	[0.01]	0.63	3/22	[0.015]	0.24	0.5	NA	6	6500
HEPTACHLOR	1/21	[0.01]	0.22	0/22	[0.01]	[0.02]	0/22	[0.01]	[0.02]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	1/21	[0.015]	0.3	0/22	[0.01]	[0.025]	0/22	[0.015]	[0.02]	NA	NA	NA	190
PAHs (µg/kg)													
2-METHYLNAPHTHALENE	22/22	0.14	7.8	21/22	[0.07]	320	21/22	[0.07]	46	70	19.4	670	NA
ACENAPHTHENE	21/22	[0.06]	37	21/22	[0.06]	8000	20/22	[0.06]	45	16	26.6	500	29000000
ACENAPHTHYLENE	22/22	0.12	17	21/22	[0.046]	40	20/22	[0.0455]	71	44	31.7	640	NA
ANTHRACENE	21/22	[0.19]	240	22/22	0.13	5400	20/22	[0.06]	200	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	22/22	0.78	310	22/22	0.38	31000	21/22	[0.13]	1100	261	244	1600	2100
BENZO(A)PYRENE	22/22	1.4	530	22/22	0.82	51000	21/22	[0.055]	1400	430	412	1600	210
BENZO(B)FLUORANTHENE	22/22	1.1	430	22/22	0.64	32000	21/22	[0.07]	1100	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	22/22	1.5	400	22/22	0.91	27000	22/22	0.14	770	290[(m)]	310	NA	NA
BENZO(K)FLUORANTHENE	22/22	0.87	340	22/22	0.49	40000	21/22	[0.06]	1200	24[(j)]	258	NA	1300
CHRYSENE	22/22	1	600	22/22	0.5	39000	22/22	0.08	1600	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	21/22	[0.06]	78	20/22	[0.06]	5000	20/22	[0.06]	300	63.4	32.7	260	210
DIBENZOFURAN	20/22	[0.075]	9.8	21/22	[0.075]	420	19/22	[0.075]	53	2290[(n)]	NA	NA	1600000
FLUORANTHENE	22/22	1.9	610	22/22	1.1	46000	21/22	[0.095]	2400	600	514	5100	22000000
FLUORENE	21/22	[0.055]	32	21/22	[0.055]	1400	21/22	[0.055]	54	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	22/22	1.3	460	22/22	0.77	35000	21/22	[0.055]	960	78[(n)]	382	NA	2100
NAPHTHALENE	22/22	0.37	22	22/22	0.3	230	22/22	0.21	170	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	22/22	0.73	120	22/22	0.46	20000	22/22	0.18	600	240	237	1500	NA
PYRENE	22/22	2.5	470	22/22	1.4	50000	21/22	[0.11]	2300	665	665	2600	29000000
Total LPAH (6)[(o)]	22/22	1.585	432	22/22	1.051	35070	22/22	0.6105	996	NA	NA	3160	NA
Total HPAH (6)[(p)]	22/22	7.64	2525	22/22	4.26	222000	22/22	0.53	9100	1700	3060	9600	NA

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data) (continued)

	0-5 cm			5-25 cm			25-50 cm			Threshold Values			
Analyte	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Organotins (µg/kg)													
TRIBUTYL TIN	17/22	[0.035]	3	19/22	[0.0345]	4	10/22	[0.0345]	1.6	25.1[q]	NA	NA	180000
Radionuclides (pCi/g)													
RADIUM-226	1/8	[0.025]	0.2	1/8	[0.019]	0.24	3/8	[0.05]	0.45	NA	NA	NA	NA
RADIUM-228	2/8	[0.13]	1.34	2/8	[0.08]	0.74	3/8	[0.13]	1.36	NA	NA	NA	NA

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 6 isomers (2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). Total 4,4'-DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maxiumum detected value.

Table 4-3. Summary of Background Comparison Tests for Western Bayside Inorganic Chemicals

Analyte	Ambient Data Set [(a)]	No. of Ambient Samples [(b)]	Test Results [(c)] All/Fine/Coarse All Years	Test Results [(c)] All/Fine/Coarse 2005 only	Carry Forward?
ANTIMONY [(d)]	BPTCP	21	NA/F/NA	NA/NA/NA	Yes
ARSENIC	RMP, BPTCP	199	P/P/P	P/P/P	No
CADMIUM	RMP, BPTCP	199	P/P/P	P/P/P	No
CHROMIUM [(e)]	RMP	178	F/F/P	P/P/P	Yes
COPPER	RMP, BPTCP	194	P/P/P	P/P/P	No
LEAD	RMP, BPTCP	199	P/P/P	P/P/P	No
MERCURY	RMP, BPTCP	211	P/P/P	P/P/P	No
NICKEL	RMP, BPTCP	198	P/P/P	P/P/P	No
SELENIUM	RMP, BPTCP	199	NA/NA/NA	NA/NA/NA	No
SILVER	RMP, BPTCP	180	P/NA/P	P/P/P	No
ZINC	RMP, BPTCP	199	P/P/P	P/P/P	No

(a) BPTCP = Bay Protection and Toxic Cleanup Program; RMP = (San Francisco Estuary Institute) Regional Monitory Program.
(b) All grain sizes.
(c) Test results are presented for all samples (including 2001 locations with no grain size analyses), for fine stations (>40% fines), and for coarse stations (<40% fines).

P = pass. No statistically significant results for any of the distribution shift tests.
F = fail. One or more statistical tests indicate a shifted site distribution.
NA = not applicable; too few samples or too few detects to run statistical tests.

(d) Antimony was not analyzed in RMP samples.
(e) Chromium results from RMP are used for reference set. The BPTCP analytical method was not considered comparable.

Table 4-4. Summary of Background Comparison Tests for Western Bayside Organic Chemicals

Analyte	Ambient Data Set [(a)]	No. of Ambient Samples [(b)]	Test Results [(c)] All Grain Sizes All/2005	Carry Forward?
Pesticides - All Stations				
TOTAL PCB[(e)]	RMP, BPTCP	211	F/F	Yes
TOTAL 4,4-DDx [(d)]	RMP, BPTCP	199	F/P	Yes
TOTAL DDx [(d)]	RMP, BPTCP	185	P/P	No
2,4'-DDD	RMP, BPTCP	199	NA/NA	No
2,4'-DDE	RMP, BPTCP	199	NA/NA	No
2,4'-DDT	RMP, BPTCP	185	NA/NA	No
4,4'-DDD	RMP, BPTCP	199	NA/P	Yes
4,4'-DDE	RMP, BPTCP	199	NA/P	Yes
4,4'-DDT	RMP, BPTCP	199	NA/NA	No
ALDRIN	RMP, BPTCP	185	NA/NA	Yes
ALPHA-BHC	RMP, BPTCP	199	NA/NA	Yes
ALPHA-CHLORDANE	RMP, BPTCP	199	NA/NA	Yes
DIELDRIN	RMP, BPTCP	199	NA/NA	Yes
ENDOSULFAN I	BPTCP	21	NA/NA	Yes
ENDOSULFAN II	BPTCP	21	NA/NA	Yes
ENDOSULFAN SULFATE	BPTCP	21	NA/NA	Yes
ENDRIN	RMP, BPTCP	185	NA/NA	Yes
ENDRIN ALDEHYDE	none	0	NA/NA	Yes
GAMMA-BHC	RMP, BPTCP	199	NA/NA	Yes
GAMMA-CHLORDANE	RMP	178	NA/NA	Yes
HEPTACHLOR	RMP, BPTCP	185	NA/NA	Yes
HEPTACHLOR EPOXIDE	RMP, BPTCP	199	NA/NA	Yes
PAHs - All Stations				
BENZO(A)ANTHRACENE	RMP, BPTCP	199	P/P	No
BENZO(A)PYRENE	RMP, BPTCP	199	P/P	No
BENZO(B)FLUORANTHENE	RMP, BPTCP	199	P/P	No
BENZO(G,H,I)PERYLENE	RMP, BPTCP	199	P/P	No
BENZO(K)FLUORANTHENE	RMP, BPTCP	199	F/F	Yes
CHRYSENE	RMP, BPTCP	199	P/F	Yes
DIBENZO(A,H)ANTHRACENE	RMP, BPTCP	199	F/P	Yes
FLUORANTHENE	RMP, BPTCP	197	P/P	No
INDENO(1,2,3-CD)PYRENE	RMP, BPTCP	199	P/P	No
PYRENE	RMP, BPTCP	197	P/P	No
2-METHYLNAPHTHALENE	RMP, BPTCP	185	F/P	Yes
ACENAPHTHENE	RMP, BPTCP	185	F/P	Yes
ACENAPHTHYLENE	RMP, BPTCP	185	F/P	Yes
ANTHRACENE	RMP, BPTCP	199	F/P	Yes
FLUORENE	RMP, BPTCP	185	F/P	Yes
NAPHTHALENE	RMP, BPTCP	160	P/P	No
PHENANTHRENE	RMP, BPTCP	192	P/P	No
TOTAL HPAH (10)[(d)]	RMP, BPTCP	197	P/P	No
TOTAL HPAH (6) [(d)]	RMP, BPTCP	197	P/P	No
TOTAL LPAH (6) [(d)]	RMP, BPTCP	160	P/P	No
TOTAL LPAH (7) [(d)]	RMP, BPTCP	160	P/P	No
TOTAL PAH (12) [(d)]	RMP, BPTCP	160	P/P	No
TOTAL PAH (13) [(d)]	RMP, BPTCP	160	P/P	No
Organotins - All Stations				
TRIBUTYL TIN	BPTCP	19	F/F	Yes

(a) BPTCP = Bay Protection and Toxic Cleanup Program; RMP = (San Francisco Estuary Institute) Regional Monitory Program.
(b) All grain sizes.
(c) Test results are presented for all samples (including 2001 locations with no grain size analyses). P = pass. No statistically significant results for any of the distribution shift tests. F = fail. One or more statistical tests indicate a shifted site distribution. NA = not applicable; too few samples or too few detects to run statistical tests.
(d) Totals with ND=1/2 DL in Sum (All Stations)
(e) Totals with ND=0 in Sum (All Stations)

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year

Analyte	1996			1998			2002			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	11/21	[0.39]	1.8	5/5	0.15	0.26	5/5	0.56	0.822	2[f]	NA	25	410
ARSENIC	19/21	[1.1]	11.9	5/5	5.3	7.9	5/5	6.61	10.2	8.2	15.3	70	0.25
CADMIUM	2/21	[0.025]	0.13	5/5	0.15	0.41	5/5	0.341	0.456	1.2	0.33	9.6	450
CHROMIUM	21/21	22.7	111	5/5	84	98	5/5	134	153	81	112	370	450
COPPER	21/21	5.5	77.2	5/5	56	66	5/5	37.1	58.1	34	68.1	270	41000
LEAD	21/21	7.5	48.9	5/5	31.9	36.7	5/5	21.1	32.5	46.7	43.2	218	800
MERCURY	21/21	0.04	0.66	4/4	0.4	0.5	5/5	0.232	0.39	0.15	0.43	0.71	310
NICKEL	21/21	15.5	99	5/5	60.3	67.9	5/5	65.7	89.9	20.9	112	51.6	20000
SELENIUM	0/21	[0.375]	[0.95]	5/5	0.5	0.7	5/5	0.645	1.15	0.7[f]	0.64	1.4	5100
SILVER	4/21	[0.075]	2.5	5/5	0.32	0.48	5/5	0.555	0.769	1	0.58	3.7	5100
ZINC	21/21	28.4	210	5/5	135	145	5/5	95.9	141	150	158	410	100000
Pesticides and PCBs (µg/kg)													
Total PCB[g]	4/21	14	119	5/5	10	30.82	5/5	25.11	55.94	22.7	200[h]	180	NA
Total 4,4-DDx[i]	1/21	[3.6]	6.2	5/5	1.54	2.97	5/5	2.357	4.565	1.58	7	46.1	NA
Total DDx	0/0	NA	NA	5/5	2.14	4.04	5/5	3.277	6.269	NA	NA	NA	NA
2,4'-DDD	0/0	NA	NA	1/5	[0.14]	0.54	5/5	0.6839	1.769	NA	NA	NA	10000
2,4'-DDE	0/0	NA	NA	0/5	[0.23]	[0.28]	4/5	[0.072]	0.1365	NA	NA	NA	7000
2,4'-DDT	0/0	NA	NA	0/5	[0.23]	[0.28]	5/5	0.1324	0.2265	NA	NA	NA	7000
4,4'-DDD	0/21	[1.2]	[13]	2/5	[0.36]	1.1	5/5	1.116	1.857	2[f]	NA	20	10000
4,4'-DDE	0/21	[1.2]	[13]	5/5	0.6	1.5	5/5	0.9387	1.561	2.2	NA	27	7000
4,4'-DDT	1/21	[1.2]	2.1	0/5	[0.36]	[0.47]	5/5	0.3018	1.61	1	NA	7	7000
ALDRIN	0/21	[0.6]	[6.5]	1/5	[0.165]	0.33	0/5	[0.03074]	[0.04409]	0.2[j]	NA	NA	100
ALPHA-BHC	0/21	[0.6]	[6.5]	0/0	NA	NA	0/5	[0.02615]	[0.0375]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	5/5	0.08131	0.1913	0.5[f]	NA	6	6500
DIELDRIN	0/21	[1.2]	[13]	0/5	[0.14]	[0.17]	5/5	0.4129	0.6221	0.02[f]	0.44	8	110
ENDOSULFAN I	0/21	[0.6]	[6.5]	0/0	NA	NA	0/5	[0.04962]	[0.07117]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/21	[1.2]	6.9	0/0	NA	NA	0/5	[0.04845]	[0.06948]	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/21	[1.2]	[13]	0/0	NA	NA	0/5	[0.05067]	[0.07267]	NA	NA	NA	3700000

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year (continued)

Analyte	1996			1998			2002			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
ENDRIN	0/21	[1.2]	[13]	0/5	[0.14]	[0.17]	0/5	[0.04289]	[0.0615]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/21	[1.2]	[13]	0/0	NA	NA	0/5	[0.07016]	[0.1006]	NA	NA	NA	180000
GAMMA-BHC	0/21	[0.6]	[6.5]	0/2	[0.1]	[0.11]	0/5	[0.03174]	[0.04553]	0.32[l]	NA	NA	1700
GAMMA-CHLORDANE	0/21	[0.6]	[6.5]	0/0	NA	NA	5/5	0.2849	1.109	0.5	NA	6	6500
HEPTACHLOR	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	0/5	[0.04016]	[0.05759]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	0/5	[0.03708]	[0.05318]	NA	NA	NA	190
PAHs (µg/kg)													
2-METHYLNAPHTHALENE	0/21	[100]	[260]	0/0	NA	NA	5/5	7.01	21	70	19.4	670	NA
ACENAPHTHENE	0/21	[100]	[260]	5/5	2.5	19	5/5	3.88	87.4	16	26.6	500	29000000
ACENAPHTHYLENE	0/21	[100]	[260]	5/5	7	37	5/5	6.32	11.9	44	31.7	640	NA
ANTHRACENE	1/21	[100]	260	5/5	16	170	5/5	21.2	126	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	3/21	[100]	580	5/5	57	380	5/5	80.6	307	261	244	1600	2100
BENZO(A)PYRENE	9/21	[100]	660	5/5	97	260	5/5	118	289	430	412	1600	210
BENZO(B)FLUORANTHENE	9/21	[100]	820	5/5	110	430	5/5	139	284	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	5/21	[100]	220	5/5	72	120	5/5	126	192	290[m]	310	NA	NA
BENZO(K)FLUORANTHENE	3/21	[100]	330	5/5	33	140	5/5	117	248	24[j]	258	NA	1300
CHRYSENE	3/21	[100]	670	5/5	61	390	5/5	110	486	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	0/21	[100]	[260]	5/5	6	22	5/5	17.2	30.5	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	2290[n]	NA	NA	1600000
FLUORANTHENE	6/21	[100]	1600	5/5	120	1400	5/5	170	666	600	514	5100	22000000
FLUORENE	0/21	[100]	[260]	5/5	3.5	33	5/5	7.86	108	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	4/21	[100]	190	5/5	71	140	5/5	134	207	78[n]	382	NA	2100
NAPHTHALENE	0/21	[100]	[260]	5/5	4.3	8.6	5/5	14.6	29.8	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	5/5	30	75	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	3/21	[100]	590	5/5	37	170	5/5	56.9	467	240	237	1500	NA
PYRENE	11/21	[100]	1900	5/5	150	820	5/5	193	599	665	665	2600	29000000
Total LPAH (6)[o]	3/21	[600]	1520	5/5	70.3	438	5/5	112.8	830.1	NA	NA	3160	NA
Total HPAH (6)[p]	11/21	[600]	5545	5/5	492.9	3272	5/5	733.6	2378	1700	3060	9600	NA

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year (continued)

	1996			1998			2002			Threshold Values			
Analyte	D/N[(a)]	Min	Max[(r)]	D/N	Min	Max[(r)]	D/N	Min	Max[(r)]	Eco Screen[(b)]	Ambient[(c)]	ER-M[(d)]	PRG Industrial[(e)]
Organotins (µg/kg)													
TRIBUTYL TIN	0/21	[1]	[2.5]	5/5	6	9	0/5	[1.887]	[3.048]	25.1[(q)]	NA	NA	180000

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-6. Summary of Chemical Concentrations in Breakwater Beach Sediment by Depth

Analyte	Surface (All Years)			75-180 cm (1996 Data)			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)										
ANTIMONY	21/31	0.15	1.8	4/21	[0.38]	1.9	2[f]	NA	25	410
ARSENIC	29/31	[1.1]	11.9	17/21	[1]	10.7	8.2	15.3	70	0.25
CADMIUM	12/31	[0.025]	0.46	0/21	[0.025]	[0.05]	1.2	0.33	9.6	450
CHROMIUM	31/31	22.7	153	21/21	17.2	120	81	112	370	450
COPPER	31/31	5.5	77.2	21/21	4.7	77.6	34	68.1	270	41000
LEAD	31/31	7.5	48.9	21/21	3.1	65	46.7	43.2	218	800
MERCURY	30/30	0.04	0.66	14/21	[0.01]	0.71	0.15	0.43	0.71	310
NICKEL	31/31	15.5	99	21/21	13.8	93.8	20.9	112	51.6	20000
SELENIUM	10/31	[0.375]	1.15	0/21	[0.37]	[0.75]	0.7[f]	0.64	1.4	5100
SILVER	14/31	[0.075]	2.5	1/21	[0.07]	0.92	1	0.58	3.7	5100
ZINC	31/31	28.4	210	19/21	[20.4]	198	150	158	410	100000
Pesticides and PCBs (µg/kg)										
Total PCB[g]	14/31	10	119	3/21	11	210	22.7	200[h]	180	NA
Total 4,4-DDx[i]	11/31	1.54	6.2	1/21	[3]	16.1	1.58	7	46.1	NA
Total DDx	10/10	2.14	6.27	0/0	NA	NA	NA	NA	NA	NA
2,4'-DDD	6/10	[0.14]	1.77	0/0	NA	NA	NA	NA	NA	10000
2,4'-DDE	4/10	[0.072]	0.137	0/0	NA	NA	NA	NA	NA	7000
2,4'-DDT	5/10	0.132	0.227	0/0	NA	NA	NA	NA	NA	7000
4,4'-DDD	7/31	[0.36]	1.86	0/21	[1]	[2]	2[f]	NA	20	10000
4,4'-DDE	10/31	0.6	1.56	1/21	[1]	8.4	2.2	NA	27	7000
4,4'-DDT	6/31	0.302	2.1	1/21	[1]	5.7	1	NA	7	7000
ALDRIN	1/31	[0.03074]	0.33	0/21	[0.5]	[1.05]	0.2[j]	NA	NA	100
ALPHA-BHC	0/26	[0.02615]	[6.5]	0/21	[0.5]	[1.05]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	5/31	0.081	0.191	0/21	[0.5]	[1.05]	0.5[f]	NA	6	6500
DIELDRIN	5/31	[0.14]	0.622	0/21	[1]	[2]	0.02[f]	0.44	8	110
ENDOSULFAN I	0/26	[0.04962]	[6.5]	0/21	[0.5]	[1.05]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/26	[0.04845]	6.9	0/21	[1]	[2]	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/26	[0.05067]	[13]	0/21	[1]	[2]	NA	NA	NA	3700000
ENDRIN	0/31	[0.04289]	[13]	0/21	[1]	[2]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/26	[0.07016]	[13]	1/21	[1]	3.7	NA	NA	NA	180000
GAMMA-BHC	0/28	[0.03174]	[6.5]	0/21	[0.5]	[1.05]	0.32[l]	NA	NA	1700
GAMMA-CHLORDANE	5/26	0.285	1.11	0/21	[0.5]	[1.05]	0.5	NA	6	6500
HEPTACHLOR	0/31	[0.04016]	[6.5]	0/21	[0.5]	[1.05]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/31	[0.03708]	[6.5]	0/21	[0.5]	[1.05]	NA	NA	NA	190
PAHs (µg/kg)										
2-METHYLNAPHTHALENE	5/26	7.01	21	0/21	[100]	[200]	70	19.4	670	NA
ACENAPHTHENE	10/31	2.5	87.4	0/21	[100]	[200]	16	26.6	500	29000000
ACENAPHTHYLENE	10/31	6.32	37	0/21	[100]	[200]	44	31.7	640	NA
ANTHRACENE	11/31	16	260	1/21	[100]	110	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	13/31	57	580	1/21	[100]	270	261	244	1600	2100
BENZO(A)PYRENE	19/31	97	660	5/21	[100]	640	430	412	1600	210
BENZO(B)FLUORANTHENE	19/31	[100]	820	5/21	[100]	650	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	15/31	72	220	3/21	[100]	430	290[m]	310	NA	NA

Table 4-6. Summary of Chemical Concentrations in Breakwater Beach Sediment by Depth (continued)

Analyte	Surface (All Years) D/N[a]	Surface (All Years) Min	Surface (All Years) Max[r]	75-180 cm (1996 Data) D/N	75-180 cm (1996 Data) Min	75-180 cm (1996 Data) Max[r]	Threshold Values Eco Screen[b]	Threshold Values Ambient[c]	Threshold Values ER-M[d]	Threshold Values PRG Industrial[e]
BENZO(K)FLUORANTHENE	13/31	33	330	1/21	[100]	160	24[j]	258	NA	1300
CHRYSENE	13/31	61	670	3/21	[100]	300	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	10/31	6	30.5	0/21	[100]	[200]	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	2290[n]	NA	NA	1600000
FLUORANTHENE	16/31	[100]	1600	4/21	[100]	770	600	514	5100	22000000
FLUORENE	10/31	3.5	108	0/21	[100]	[200]	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	14/31	71	207	3/21	[100]	310	78[n]	382	NA	2100
NAPHTHALENE	10/31	4.3	29.8	0/21	[100]	[200]	160	55.8	2100	4200
PERYLENE	5/5	30	75	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	13/31	37	590	2/21	[100]	820	240	237	1500	NA
PYRENE	21/31	[100]	1900	6/21	[100]	1100	665	665	2600	29000000
Total LPAH (6)[o]	13/31	70.3	1520	2/21	[600]	1820	NA	NA	3160	NA
Total HPAH (6)[p]	21/31	492.9	5545	6/21	[600]	2860	1700	3060	9600	NA
Organotins (µg/kg)										
TRIBUTYL TIN	5/31	[1]	9	0/21	[1.05]	[2.05]	25.1[q]	NA	NA	180000

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 6 isomers (2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). Total 4,4'-DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-7. Summary of Background Comparison Tests for Inorganic Chemicals at Breakwater Beach

Analyte	Ambient Data Set [(a)]	No. of Ambient Samples [(b)]	Test Results[(c)] All/Fine/Coarse All years	Carry Forward?
ANTIMONY[(d)]	BPTCP	21	P/P/NA	No
ARSENIC	RMP, BPTCP	199	P/P/P	No
CADMIUM	RMP, BPTCP	199	NA/NA/NA	Yes
CHROMIUM[(e)]	RMP	178	F/F/P	Yes
COPPER	RMP, BPTCP	194	P/F/P	Yes
LEAD	RMP, BPTCP	199	F/F/P	Yes
MERCURY	RMP, BPTCP	211	F/F/P	Yes
NICKEL	RMP, BPTCP	198	P/P/P	No
SELENIUM	RMP, BPTCP	199	NA/NA/NA	Yes
SILVER	RMP, BPTCP	180	NA/F/NA	Yes
ZINC	RMP, BPTCP	199	P/P/P	No

(a) BPTCP = Bay Protection and Toxic Cleanup Program; RMP = (San Francisco Estuary Institute) Regional Monitory Program.
(b) All grain sizes.
(c) Test results are presented for all samples (including 2001 locations with no grain size analyses), for fine stations (>40% fines), and for coarse stations (<40% fines).
P = pass. No statistically significant results for any of the distribution shift tests.
F = fail. One or more statistical tests indicate a shifted site distribution.
NA = not applicable; too few samples or too few detects to run statistical tests.
(d) Antimony was not analyzed in RMP samples.
(e) Chromium results from RMP are used for reference set. The BPTCP analytical method was not considered comparable.

Table 4-8. Summary Background Comparison Tests for Organic Chemicals at Breakwater Beach

Analyte	Ambient Data Set [(a)]	No. of Ambient Samples [(b)]	Test Results [(c)] All Grain Sizes	Carry Forward?
Pesticides - All Stations				
TOTAL PCB[(e)]	RMP, BPTCP	211	NA	Yes
2,4'-DDD	RMP, BPTCP	199	NA	Yes
2,4'-DDE	RMP, BPTCP	199	NA	Yes
2,4'-DDT	RMP, BPTCP	185	NA	Yes
4,4'-DDD	RMP, BPTCP	199	NA	Yes
4,4'-DDE	RMP, BPTCP	199	NA	Yes
4,4'-DDT	RMP, BPTCP	199	NA	Yes
TOTAL 4,4-DDx [(d)]	RMP, BPTCP	199	NA	Yes
TOTAL DDx [(d)]	RMP, BPTCP	185	P	No
ALDRIN	RMP, BPTCP	185	NA	Yes
ALPHA-BHC	RMP, BPTCP	199	NA	Yes
ALPHA-CHLORDANE	RMP, BPTCP	199	NA	Yes
DIELDRIN	RMP, BPTCP	199	NA	Yes
ENDOSULFAN I	BPTCP	21	NA	Yes
ENDOSULFAN II	BPTCP	21	NA	Yes
ENDOSULFAN SULFATE	BPTCP	21	NA	Yes
ENDRIN	RMP, BPTCP	185	NA	Yes
ENDRIN ALDEHYDE	none	0	NA	Yes
GAMMA-BHC	RMP, BPTCP	199	NA	Yes
GAMMA-CHLORDANE	RMP	178	NA	Yes
HEPTACHLOR	RMP, BPTCP	185	NA	Yes
HEPTACHLOR EPOXIDE	RMP, BPTCP	199	NA	Yes
PAHs - All Stations				
BENZO(A)ANTHRACENE	RMP, BPTCP	199	NA	Yes
BENZO(A)PYRENE	RMP, BPTCP	199	F	Yes
BENZO(B)FLUORANTHENE	RMP, BPTCP	199	F	Yes
BENZO(G,H,I)PERYLENE	RMP, BPTCP	199	NA	No
BENZO(K)FLUORANTHENE	RMP, BPTCP	199	NA	Yes
CHRYSENE	RMP, BPTCP	199	NA	Yes
DIBENZO(A,H)ANTHRACENE	RMP, BPTCP	199	NA	Yes
FLUORANTHENE	RMP, BPTCP	197	F	Yes
INDENO(1,2,3-CD)PYRENE	RMP, BPTCP	199	NA	No
PERYLENE	RMP, BPTCP	185	P	No
PYRENE	RMP, BPTCP	197	F	Yes
2-METHYLNAPHTHALENE	RMP; BPTCP	185	NA	Yes
ACENAPHTHENE	RMP, BPTCP	185	NA	Yes
ACENAPHTHYLENE	RMP, BPTCP	185	NA	Yes
ANTHRACENE	RMP, BPTCP	199	NA	Yes
FLUORENE	RMP, BPTCP	185	NA	Yes
NAPHTHALENE	RMP, BPTCP	160	NA	Yes
PHENANTHRENE	RMP, BPTCP	192	NA	Yes
TOTAL HPAH (10) [(d)]	RMP, BPTCP	197	F	Yes
TOTAL HPAH (6) [(d)]	RMP, BPTCP	197	F	Yes
TOTAL LPAH (6) [(d)]	RMP, BPTCP	160	NA	Yes
TOTAL LPAH (7) [(d)]	RMP, BPTCP	160	NA	Yes
TOTAL PAH (12) [(d)]	RMP, BPTCP	160	F	Yes
TOTAL PAH (13) [(d)]	RMP, BPTCP	160	F	Yes
Organotins - All Stations				
TRIBUTYL TIN	BPTCP	19	NA	Yes

(a) BPTCP = Bay Protection and Toxic Cleanup Program; RMP = (San Francisco Estuary Institute) Regional Monitory Program.
(b) All grain sizes.
(c) Test results are presented for all samples (including 2001 locations with no grain size analyses). P = pass. No statistically significant results for any of the distribution shift tests. F = fail. One or more statistical tests indicate a shifted site distribution. NA = not applicable; too few samples or too few detects to run statistical tests.
(d) Totals with ND=1/2 DL in Sum (All Stations). (e) Totals with DN=0 in Sum (All Stations)

Table 4-9. Summary of Tissue Data from *Macoma nasuta* Bioaccumulation Bioassays at Western Bayside

Analyte	Macoma Tissue All Years Dry Weight					Reference Tissue
	D/N[a]	Min	Max	Detect Standard Deviation	Location of Maximum	q90
Inorganics (mg/kg)						
ANTIMONY	0/7	[0.5]	[0.5]	NA	[B02], [B03], [B05], [B07], [B11], [B13], [B14]	0.1804
ARSENIC	7/7	19.8	27	2.306	B14	23.2
CADMIUM	0/7	[0.125]	[0.125]	NA	[B02], [B03], [B05], [B07], [B11], [B13], [B14]	0.3588
CHROMIUM	0/7	[0.25]	[0.25]	NA	[B02], [B03], [B05], [B07], [B11], [B13], [B14]	28.91
COPPER	7/7	7.5	15	2.471	B11	15.12
LEAD	5/7	[0.075]	4.055	1.45	B07	3.577
MERCURY	3/7	[0.005]	0.232	0.03349	B02	0.1385
NICKEL	3/7	[0.25]	6.82	1.213	B07	13.397
SELENIUM	0/7	[0.125]	[0.125]	NA	[B02], [B03], [B05], [B07], [B11], [B13], [B14]	5.331
SILVER	0/7	[0.25]	[0.25]	NA	[B02], [B03], [B05], [B07], [B11], [B13], [B14]	0.2329
ZINC	7/7	73.2	113.2	14.86	B07	125.1
Pesticides and PCBs (µg/kg)						
Total PCB[b]	0/7	[0]	[0]	NA	NA	154.18
Total 4,4-DDx[c]	2/7	[25.5]	29.6	1.697	B07	11.944
DDD+DDE	2/7	[17]	20.4	1.202	B07	none
2,4'-DDD	0/0	NA	NA	NA	NA	none
2,4'-DDE	0/0	NA	NA	NA	NA	none
2,4'-DDT	0/0	NA	NA	NA	NA	none
4,4'-DDD	0/7	[8.5]	[9.2]	NA	[B07]	5.022
4,4'-DDE	2/7	[8.5]	11.2	0.7071	B07	7.803
4,4'-DDT	0/7	[8.5]	[9.2]	NA	[B07]	0.267
Total DDx	0/0	NA	NA	NA	NA	none
ALDRIN	0/7	[2.12]	[2.3]	NA	[B07]	0.417
ALPHA-BHC	0/7	[2.12]	[2.3]	NA	[B07]	none
ALPHA-CHLORDANE	0/7	[2.12]	[2.3]	NA	[B07]	0.964
DIELDRIN	0/7	[4.23]	[4.64]	NA	[B07]	1.855
ENDOSULFAN I	0/7	[4.23]	[4.64]	NA	[B07]	none
ENDOSULFAN II	0/7	[4.23]	[4.64]	NA	[B07]	0.293
ENDOSULFAN SULFATE	0/7	[4.23]	[4.64]	NA	[B07]	none
ENDRIN	0/7	[4.23]	[4.64]	NA	[B07]	0.258
ENDRIN ALDEHYDE	0/7	[8.5]	[9.2]	NA	[B07]	none
GAMMA-BHC	0/7	[2.12]	[2.3]	NA	[B07]	0.487
GAMMA-CHLORDANE	0/7	[2.12]	[2.3]	NA	[B07]	0.856
HEPTACHLOR	0/7	[2.12]	[2.3]	NA	[B07]	0.55
HEPTACHLOR EPOXIDE	0/7	[2.12]	[2.3]	NA	[B07]	0.487
PAHs (µg/kg)						
2-METHYLNAPHTHALENE	0/7	[300]	[317]	NA	[B05]	1.168
ACENAPHTHENE	0/7	[300]	[317]	NA	[B05]	3.25
ACENAPHTHYLENE	0/7	[300]	[317]	NA	[B05]	2.615
ANTHRACENE	0/7	[300]	[317]	NA	[B05]	11.636
BENZO(A)ANTHRACENE	0/7	[300]	[317]	NA	[B05]	21.131
BENZO(A)PYRENE	0/7	[300]	[317]	NA	[B05]	30.803

Table 4-9. Summary of Tissue Data from *Macoma nasuta* Bioaccumulation Bioassays at Western Bayside (continued)

Analyte	Macoma Tissue All Years Dry Weight					Reference Tissue
	D/N[(a)]	Min	Max	Detect Standard Deviation	Location of Maximum	q90
BENZO(B)FLUORANTHENE	0/7	[300]	[317]	NA	[B05]	30.74
BENZO(G,H,I)PERYLENE	0/7	[300]	[317]	NA	[B05]	27.013
BENZO(K)FLUORANTHENE	0/7	[300]	[317]	NA	[B05]	31.594
CHRYSENE	0/7	[300]	[317]	NA	[B05]	39.294
DIBENZO(A,H)ANTHRACENE	0/7	[300]	[317]	NA	[B05]	1.442
FLUORANTHENE	0/7	[300]	[317]	NA	[B05]	91.566
FLUORENE	0/7	[156.3]	[166]	NA	[B05]	21
INDENO(1,2,3-CD)PYRENE	0/7	[300]	[317]	NA	[B05]	16.67
NAPHTHALENE	0/7	[300]	[317]	NA	[B05]	21
PHENANTHRENE	0/7	[300]	[317]	NA	[B05]	22.631
PYRENE	0/7	[300]	[317]	NA	[B05]	116.703
Total LPAH (6)[(d)]	0/7	[1656]	[1751]	NA	[B05]	70.72
Total HPAH (6)[(e)]	0/7	[1800]	[1902]	NA	[B05]	365.7
Organotins (µg/kg)						
TRIBUTYL TIN	0/7	[2.5]	[27]	NA	[B05], [B07], [B13]	42.378

NA = not applicable

q90 = 90th percentile

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.

(b) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.

(c) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD 4,4'-DDE and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx. Ambient - published ambient value for SF Bay sediment concentrations (RWQCB, 1998).

(d) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.

(e) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.

Table 4-10. Summary of Tissue Data from *Macoma nasuta* Bioaccumulation Bioassays at Breakwater Beach

Analyte	Macoma Tissue All Years Dry Weight D/N[a]	Min	Max	Detect Standard Deviation	Location of Maximum	Reference Tissue q90
Inorganics (mg/kg)						
ANTIMONY	5/5	0.037	0.056	0.007701	BW05	0.1804
ARSENIC	5/5	13.74	25.48	4.586	BW01	23.2
CADMIUM	5/5	0.187	0.266	0.02817	BW01	0.3588
CHROMIUM	5/5	9.6	68	22.81	BW05	28.91
COPPER	5/5	9	17.52	3.243	BW05	15.12
LEAD	5/5	1.19	2.076	0.3531	BW04	3:577
MERCURY	4/5	0.05	0.06	0.005774	BW04, BW05	0.1385
NICKEL	5/5	8.08	43.42	13.31	BW05	13.397
SELENIUM	3/5	1.4	3	0.8505	BW01	5.331
SILVER	5/5	0.146	0.29	0.05553	BW04	0.2329
ZINC	5/5	64.8	111	17.94	BW01	125.1
Pesticides and PCBs (µg/kg)						
Total PCB[b]	5/5	43.6	125	44.38	BW03	154.18
Total 4,4-DDx[c]	3/3	14	15.53	0.7669	BW01	11.944
DDD+DDE	5/5	10.6	15.1	2.001	BW01	none
2,4'-DDD	4/5	[0.29]	1.7	0.1732	BW04, BW05	none
2,4'-DDE	0/5	[0.325]	[0.75]	NA	[BW05]	none
2,4'-DDT	0/5	[0.36]	[0.85]	NA	[BW05]	none
4,4'-DDD	5/5	4.5	7.2	1.055	BW03	5.022
4,4'-DDE	5/5	4	10	2.372	BW01	7.803
4,4'-DDT	1/3	[0.405]	2.8	NA	BW03	0.267
Total DDx	3/3	15.88	17.64	0.88	BW01	none
ALDRIN	0/5	[0.195]	[0.46]	NA	[BW05]	0.417
ALPHA-BHC	0/0	NA	NA	NA	NA	none
ALPHA-CHLORDANE	1/5	[0.26]	1.1	NA	BW04	0.964
DIELDRIN	5/5	1.1	2	0.3701	BW02 ,BW04	1.855
ENDOSULFAN I	0/0	NA	NA	NA	NA	none
ENDOSULFAN II	0/0	NA	NA	NA	NA	0.293
ENDOSULFAN SULFATE	0/0	NA	NA	NA	NA	none
ENDRIN	0/2	[0.23]	[0.24]	NA	[BW01]	0.258
ENDRIN ALDEHYDE	0/0	NA	NA	NA	NA	none
GAMMA-BHC	1/5	[0.23]	1.5	NA	BW01	0.487
GAMMA-CHLORDANE	0/0	NA	NA	NA	NA	0.856
HEPTACHLOR	0/5	[0.26]	[0.6]	NA	[BW05]	0.55
HEPTACHLOR EPOXIDE	0/5	[0.23]	[0.55]	NA	[BW05]	0.487
PAHs (µg/kg)						
2-METHYLNAPHTHALENE	0/0	NA	NA	NA	NA	1.168
ACENAPHTHENE	4/5	[1.3]	4	0.6272	BW05	3.25
ACENAPHTHYLENE	5/5	4.3	17	5.518	BW01	2.615
ANTHRACENE	5/5	9.6	90	33.73	BW01	11.636
BENZO(A)ANTHRACENE	5/5	30	380	147.8	BW01	21.131
BENZO(A)PYRENE	5/5	30	160	52.44	BW01	30.803
BENZO(B)FLUORANTHENE	5/5	41	320	113.4	BW01	30.74
BENZO(G,H,I)PERYLENE	4/5	20	38	8.485	BW03	27.013
BENZO(K)FLUORANTHENE	5/5	31	93	25.41	BW01	31.594

Table 4-10. Summary of Tissue Data from *Macoma nasuta* Bioaccumulation Bioassays at Breakwater Beach (continued)

Analyte	Macoma Tissue All Years Dry Weight					Reference Tissue
	D/N[(a)]	Min	Max	Detect Standard Deviation	Location of Maximum	q90
CHRYSENE	5/5	33	260	94.2	BW01	39.294
DIBENZO(A,H)ANTHRACENE	5/5	2.2	6.6	1.749	BW01	1.442
FLUORANTHENE	5/5	63	820	319.5	BW01	91.566
FLUORENE	2/5	[1.55]	5.4	0.7071	BW02	21
INDENO(1,2,3-CD)PYRENE	5/5	13	34	8.927	BW01	16.67
NAPHTHALENE	1/5	7.4	7.4	NA	BW02	21
PHENANTHRENE	1/5	[20.5]	25	NA	BW02	22.631
PYRENE	5/5	86	1300	517.1	BW01	116.703
Total LPAH (6)[(d)]	5/5	67.35	155.7	36.16	BW01	70.72
Total HPAH (6)[(e)]	5/5	244.2	2927	1130	BW01	365.7
Organotins (µg/kg)						
TRIBUTYL TIN	2/5	[11.5]	23	5.657	BW02	42.378

NA = not applicable

q90 = 90th percentile

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.

(b) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.

(c) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD 4,4'-DDE and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx. Ambient - published ambient value for SF Bay sediment concentrations (RWQCB, 1998).

(d) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.

(e) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.

Table 4-11. EPCs for Sediment at Western Bayside

Analyte	Surface sediment from all years						Surface sediment from 2005						Subsurface sediment from 2005					
	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]
Inorganics (mg/kg)																		
ANTIMONY	44	17	39.33	6.995	9.777	NP	22	4	0.31	0.06032	0.0865	LN	22	4	0.29	0.06411	0.09114	LN
ARSENIC	44	42	12.33	4.882	5.772	LN	22	22	5.85	3.815	4.233	NP	22	22	6.62	3.81	4.329	N
CADMIUM	44	24	0.306	0.1189	0.1383	NP	22	21	0.306	0.1504	0.183	N	22	21	0.952	0.2053	0.3252	LN
CHROMIUM	44	44	157.5	65.76	75.47	NP	22	22	89.8	51.13	60.3	LN	22	22	88.8	50.83	57.37	NP
COPPER	44	44	47.67	20.37	25.16	LN	22	22	32.3	17.71	23.36	LN	22	22	36.1	18.41	22.07	N
LEAD	44	44	30.8	15.99	17.89	NP	22	22	30.8	16.18	19.08	N	22	22	32.2	16.34	19.48	N
MERCURY	43	39	0.8467	0.1772	0.2123	NP	21	21	0.366	0.1596	0.2064	NP	22	22	0.499	0.1615	0.2821	LN
NICKEL	44	44	90	41.21	45.84	NP	22	22	55.8	36.21	41.15	NP	22	22	65.6	37.15	42.21	N
SELENIUM	44	3	[0.46]	0.1935	0.222	NP	22	0	[0.185]	>0.1214<	>0.1366<	N	22	0	[0.21]	>0.127<	>0.1435<	N
SILVER	44	22	1.17	0.1731	0.2073	NP	22	22	1.17	0.1649	0.3056	LN	22	22	0.441	0.1227	0.1997	LN
ZINC	44	44	130	60.4	71.15	LN	22	22	80.4	45.69	55.82	LN	22	22	85.5	45.8	52.85	N
Pesticides and PCBs (μg/kg)																		
Total PCB[g]	50	28	144.5	14.13	18.64	NP	21	21	45.26	21.5	37.16	LN	22	22	71.18	22.91	29.77	N
Total PCB (NST)[g]	21	21	45.26	21.5	37.16	LN	21	21	45.26	21.5	37.16	LN	22	22	71.18	22.91	29.77	N
Total DDx[h]	21	21	15.96	3.74	5.725	LN	21	21	15.96	3.74	5.725	LN	22	21	6.57	2.885	3.485	N
Total 4,4-DDx[h]	50	27	20.94	6.552	8.656	LN	21	21	12.79	3.419	5.241	LN	22	21	5.6	2.546	3.073	N
PCB110	21	19	1.77	0.8098	<1.77>	LN	21	19	1.77	0.8098	<1.77>	LN	22	20	3.36	1.086	2.996	LN
PCB129	21	4	0.24	0.035	0.05178	NP	21	4	0.24	0.035	0.05216	NP	22	2	0.17	0.02386	0.03433	NP
4,4'-DDD	50	24	14.15	2.216	2.836	LN	21	21	6.36	1.322	1.903	LN	22	21	3.02	1.218	1.506	N
4,4'-DDE	50	23	[6]	1.906	2.232	NP	21	20	2.61	0.9421	1.164	NP	22	21	1.89	0.8605	1.044	N
4,4'-DDT	50	21	11	2.145	2.557	NP	21	18	3.82	1.037	1.363	NP	22	16	0.97	0.4675	0.5893	NP
2,4'-DDD	21	4	2.58	0.2112	0.3638	NP	21	4	2.58	0.2112	0.3658	NP	22	5	1.99	0.1982	0.3141	NP
2,4'-DDE	21	2	0.57	0.06238	0.09936	NP	21	2	0.57	0.06238	0.09936	NP	22	1	0.56	0.04091	0.07085	NP
2,4'-DDT	21	2	1.03	0.09024	0.1499	NP	21	2	1.03	0.09024	0.1495	NP	22	5	0.74	0.09977	0.1461	NP
ALDRIN	50	1	[6.75]	0.7876	<0.31>	NP	21	1	0.31	0.02762	0.04473	NP	22	0	[0.02]	>0.01273<	>0.01384<	NP
ALPHA-BHC	50	1	[52.33]	1.895	<0.4>	NP	21	1	0.4	0.04119	0.06278	NP	22	0	[0.035]	>0.02227<	>0.02377<	NP
ALPHA-CHLORDANE	50	5	[3.15]	0.6723	0.8539	NP	21	4	1.42	0.1152	0.1942	NP	22	6	0.48	0.09318	0.1359	NP
DIELDRIN	50	3	[11.92]	1.637	<1.13>	NP	21	3	1.13	0.1243	0.2063	NP	22	7	0.72	0.1605	0.2344	NP
ENDOSULFAN I	50	0	[3.15]	>0.7278<	>0.9121<	NP	21	0	[0.02]	>0.0169<	>0.01784<	NP	22	0	[0.025]	>0.01614<	>0.0173<	NP
ENDOSULFAN II	50	1	[6]	1.178	<0.43>	NP	21	1	0.43	0.0831	0.1036	NP	22	3	0.4	0.09795	0.1251	NP
ENDOSULFAN SULFATE	50	0	[6]	>1.208<	>1.529<	NP	21	0	[0.205]	>0.1545<	>0.1649<	NP	22	0	[0.22]	>0.1475<	>0.1573<	NP
ENDRIN	50	0	[11.92]	>1.79<	>2.327<	NP	21	0	[0.025]	>0.0181<	>0.01948<	NP	22	0	[0.025]	>0.0175<	>0.01866<	NP

Table 4-11. EPCs for Sediment at Western Bayside (continued)

Analyte	Surface sediment from all years						Surface sediment from 2005						Subsurface sediment from 2005					
	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]
ENDRIN ALDEHYDE	50	1	[63.35]	3.472	<1.49>	NP	21	1	1.49	0.1	0.1846	NP	22	2	0.82	0.09114	0.1428	NP
GAMMA-BHC	50	1	[43.02]	1.89	<0.49>	NP	21	1	0.49	0.03952	0.06691	NP	22	0	[0.025]	>0.01614<	>0.0173<	NP
GAMMA-CHLORDANE	50	5	[3.15]	0.6514	0.8271	NP	21	5	1.66	0.1321	0.2275	NP	22	7	0.63	0.09886	0.145	NP
HEPTACHLOR	50	1	[6.75]	1.07	<0.22>	NP	21	1	0.22	0.02333	0.03508	NP	22	0	[0.02]	>0.01273<	>0.01384<	NP
HEPTACHLOR EPOXIDE	50	1	[3.15]	0.6067	<0.3>	NP	21	1	0.3	0.03048	0.04686	NP	22	0	[0.025]	>0.01614<	>0.0173<	NP
PAHs (µg/kg)																		
2-METHYLNAPHTHALENE	40	22	[125]	36.78	<7.8>	NP	22	22	7.8	2.102	4.01	LN	22	21	320	17.04	34.53	NP
ACENAPHTHENE	40	21	[125]	39.77	<37>	NP	22	21	37	8.974	24.77	LN	22	21	8000	370.3	811.1	NP
ACENAPHTHYLENE	40	22	[125]	37.89	<17>	NP	22	22	17	5.243	14.61	LN	22	21	40	10.63	32.7	LN
ANTHRACENE	40	21	240	49.27	60.85	NP	22	21	240	28.05	80.76	LN	22	22	5400	287.9	580.3	NP
BENZO(A)-ANTHRACENE	40	24	310	78.49	94.11	NP	22	22	310	94.34	252.7	LN	22	22	31000	459	3237	LN
BENZO(A)-PYRENE	40	34	530	140.7	171.1	NP	22	22	530	188.9	521.2	LN	22	22	51000	810.7	5657	LN
BENZO(B)-FLUORANTHENE	40	35	430	135.9	163.3	NP	22	22	430	128.8	343.6	LN	22	22	32000	647.6	4538	LN
BENZO(G,H,I)-PERYLENE	40	33	400	115.5	137.6	NP	22	22	400	126.6	322	LN	22	22	27000	458.4	2948	LN
BENZO(K)-FLUORANTHENE	40	24	340	91.43	111.6	NP	22	22	340	124.2	<340>	LN	22	22	40000	613.9	4404	LN
CHRYSENE	40	30	600	110.3	134.2	NP	22	22	600	140.3	377.9	LN	22	22	39000	666.6	4680	LN
DIBENZO(A,H)-ANTHRACENE	40	21	[125]	45.29	55.25	NP	22	21	78	23.63	68.27	LN	22	20	5000	112	811.7	LN
DIBENZOFURAN	22	20	9.8	2.151	5.321	LN	22	20	9.8	2.151	5.321	LN	22	21	420	21.9	44.74	NP
FLUORANTHENE	40	36	610	140.4	168.6	NP	22	22	610	140.9	351.9	LN	22	22	46000	2279	4787	NP
FLUORENE	40	21	[125]	29.01	<32>	NP	22	21	32	5.661	14.61	LN	22	21	1400	71.14	147.6	NP
INDENO(1,2,3-CD)PYRENE	40	29	460	114.1	138.4	NP	22	22	460	146.3	399.7	LN	22	22	35000	571.4	3891	LN
NAPHTHALENE	40	22	[125]	38.64	<22>	NP	22	22	22	5.776	11.99	LN	22	22	230	12.34	33.9	LN
PERYLENE	0	0	NA	NA	NA	NA	0	0	NA	NA	NA	NA	0	0	NA	NA	NA	NA
PHENANTHRENE	40	27	205	62.46	72.89	NP	22	22	120	39.19	50.2	NP	22	22	20000	281.2	1905	LN
PYRENE	40	38	470	165.1	195.2	NP	22	22	470	145.8	329.8	LN	22	22	50000	2490	5225	NP
Total PAH (13)[h]	40	38	2965	974.2	1150	NP	22	22	2965	829.2	2104	LN	22	22	257400	3779	25150	LN
Total PAH (12)[h]	40	38	2957	937.4	1104	NP	22	22	2957	828	2103	LN	22	22	257100	3777	25160	LN
Total LPAH (7)[h]	40	27	[875]	293.8	360.4	NP	22	22	439.8	105.2	262.3	LN	22	22	35390	498	3301	LN
Total LPAH (6)[h]	40	27	[750]	257	314.2	NP	22	22	432	103.9	261	LN	22	22	35070	494.7	3297	LN
Total HPAH (10)[h]	40	38	3805	1137	1352	NP	22	22	3805	1251	3246	LN	22	22	356000	5554	37360	LN
Total HPAH (6)[h]	40	38	2525	680.3	808.1	NP	22	22	2525	725.2	1853	LN	22	22	222000	3293	22000	LN

Table 4-11. EPCs for Sediment at Western Bayside (continued)

Analyte	Surface sediment from all years						Surface sediment from 2005						Subsurface sediment from 2005					
	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]
Organotins (µg/kg)																		
TRIBUTYL TIN	40	26	17	2.912	3.822	NP	22	17	3	0.8221	1.071	NP	22	19	4	0.9072	1.161	NP
Radionuclides (pCi/G)																		
RADIUM-226	8	1	0.2	0.09625	0.1351	N	8	1	0.2	0.09625	0.1351	N	8	1	0.24	0.09488	0.1396	N
RADIUM-228	8	2	1.34	0.3681	0.5685	NP	8	2	1.34	0.3681	0.5664	NP	8	2	0.74	0.2776	0.6541	LN

NA = not applicable
(a) N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum
(h) Totals with ND=1/2 DL in Sum

Table 4-12. EPCs for Sediment at Breakwater Beach

Analyte	Surface sediment from all years					
	N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]
Inorganics (mg/kg)						
Antimony	31	21	1.8	0.7861	0.9275	N
Arsenic	31	29	11.9	7.062	7.894	N
Cadmium	31	12	0.456	0.142	0.1809	NP
Chromium	31	31	153	78.46	96.51	LN
Copper	31	31	77.2	40.06	46.52	N
Lead	31	31	48.9	24.22	27.92	N
Mercury	30	30	0.66	0.2771	0.324	N
Nickel	31	31	99	58.64	65.7	N
Selenium	31	10	1.15	0.6241	0.6806	LN
Silver	31	14	2.5	0.3709	0.4718	NP
Zinc	31	31	210	105.8	119.9	N
Pesticides and PCBs (µg/kg)						
Total PCB[g]	31	14	119	17.64	24.18	NP
Total PCB (NST)[g]	10	10	55.94	31.21	39.54	N
Total DDx[h]	10	10	6.269	3.913	4.81	N
Total 4,4-DDx[h]	31	11	[39]	8.003	<6.2>	NP
PCB110	5	5	1.994	1.767	<1.994>	NP
PCB129	5	4	0.0581	0.04799	<0.0581>	NP
4,4'-DDD	31	7	[13]	2.725	<1.857>	NP
4,4'-DDE	31	10	[13]	2.727	<1.561>	NP
4,4'-DDT	31	6	[13]	2.503	<2.1>	LN
2,4'-DDD	10	6	1.769	0.6265	0.9291	N
2,4'-DDE	10	4	[0.28]	0.1827	<0.1365>	LN
2,4'-DDT	10	5	[0.28]	0.2167	<0.2265>	N
Aldrin	31	1	[6.5]	1.247	<0.33>	NP
alpha-BHC	26	0	[6.5]	>1.447<	>1.892<	NP
alpha-Chlordane	31	5	[6.5]	1.257	<0.1913>	NP
Dieldrin	31	5	[13]	2.663	<0.6221>	LN
Endosulfan I	26	0	[6.5]	>1.452<	>1.891<	NP
Endosulfan II	26	1	[13]	3.006	3.907	NP
Endosulfan Sulfate	26	0	[13]	>2.822<	>3.666<	NP
Endrin	31	0	[13]	>2.39<	>3.176<	NP
Endrin Aldehyde	26	0	[13]	>2.826<	>3.707<	NP
gamma-BHC	28	0	[6.5]	>1.352<	>1.77<	NP
gamma-Chlordane	26	5	[6.5]	1.536	<1.109>	NP
Heptachlor	31	0	[6.5]	>1.241<	>1.633<	NP
Heptachlor Epoxide	31	0	[6.5]	>1.241<	>1.632<	NP
PAHs (µg/kg)						
2-Methylnaphthalene	26	5	[260]	126.5	<21>	NP
Acenaphthene	31	10	[260]	108.9	<87.4>	NP
Acenaphthylene	31	10	[260]	108.3	<37>	NP
Anthracene	31	11	260	125.7	146.6	N
Benzo(a)anthracene	31	13	580	173.3	211.8	LN
Benzo(a)pyrene	31	19	660	201	230.6	NP
Benzo(b)fluoranthene	31	19	820	227.9	265.4	NP
Benzo(g,h,i)perylene	31	15	[260]	150.2	164.2	N
Benzo(k)fluoranthene	31	13	330	148.4	168.1	N
Chrysene	31	13	670	192.8	238.5	LN

Table 4-12. EPCs for Sediment at Breakwater Beach (continued)

Analyte	Surface sediment from all years					
	N[(a)]	D[(b)]	Max[(c)]	Mean[(d)]	95%UCL[(e)]	Dist[(f)]
Dibenzo(a,h)anthracene	31	10	[260]	109.6	<30.5>	NP
Dibenzofuran	0	0	NA	NA	NA	NA
Fluoranthene	31	16	1600	319	412.5	NP
Fluorene	31	10	[260]	110.9	<108>	NP
Indeno(1,2,3-cd)pyrene	31	14	[260]	147.4	160.4	N
Naphthalene	31	10	[260]	108.4	<29.8>	NP
Perylene	5	5	75	41.67	68.61	LN
Phenanthrene	31	13	590	169.4	219.1	LN
Pyrene	31	21	1900	347.2	441.3	NP
Total PAH (13)[(h)]	26	16	7070	2338	2866	LN
Total PAH (12)[(h)]	31	21	6935	2075	2600	LN
Total LPAH (7)[(h)]	26	8	[1820]	968.3	1120	N
Total LPAH (6)[(h)]	31	13	[1560]	734.2	864.5	NP
Total HPAH (10)[(h)]	31	21	7075	1985	2394	LN
Total HPAH (6)[(h)]	31	21	5545	1349	1620	NP
Organotins (µg/kg)						
Tributyl Tin	31	5	9	2.534	3.066	NP
Radionuclides (pCi/g)						
RADIUM-226	0	0	NA	NA	NA	NA
RADIUM-228	0	0	NA	NA	NA	NA

NA = not applicable
(a) N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum.
(h) Totals with ND=1/2 DL in Sum.

Table 4-13. EPCs for Macoma Dry Weight Tissue at Western Bayside

Analyte	Macoma BAF	Macoma Dry Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years						Modeled EPC - Surface Sediment, 2005						Modeled EPC - Subsurface Sediment, 2005					
		N(a)	D(b)	Max(c)	Mean(d)	95%UCL(e)	Dist(f)	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC
Inorganics (mg/kg)																									
ANTIMONY	0.1974	7	0	[0.5]	>0.5<	>0.5<	none	model	1.9300	44	17	9.777	1.9300	model	0.0171	22	4	0.0865	0.0171	model	0.0180	22	4	0.09114	0.0180
ARSENIC	3.009	7	7	27	24.11	25.81	N	tissue	25.8100	44	42	5.772	17.3679	tissue	25.8100	22	22	4.233	12.7371	tissue	25.8100	22	22	4.329	13.0260
CADMIUM	0.1218	7	0	[0.125]	>0.125<	>0.125<	none	model	0.0168	44	24	0.1383	0.0168	model	0.0223	22	21	0.183	0.0223	model	0.0396	22	21	0.3252	0.0396
CHROMIUM	0.1917	7	0	[0.25]	>0.25<	>0.25<	none	model	14.4676	44	44	75.47	14.4676	model	11.5595	22	22	60.3	11.5595	model	10.9978	22	22	57.37	10.9978
COPPER	0.1681	7	7	15	9.954	11.77	N	tissue	11.7700	44	44	25.16	4.2294	tissue	11.7700	22	22	23.36	3.9268	tissue	11.7700	22	22	22.07	3.7100
LEAD	0.0528	7	5	4.055	1.178	<4.055>	LN	tissue	<4.055>	44	44	17.89	0.9446	tissue	<4.055>	22	22	19.08	1.0074	tissue	<4.055>	22	22	19.48	1.0285
MERCURY	0.2165	7	3	0.232	0.08571	0.1504	NP	tissue	0.1504	43	39	0.2123	0.0460	tissue	0.1504	21	21	0.2064	0.0447	tissue	0.1504	22	22	0.2821	0.0611
NICKEL	0.3073	7	3	6.82	2.469	4.254	NP	tissue	4.2540	44	44	45.84	14.0866	tissue	4.2540	22	22	41.15	12.6454	tissue	4.2540	22	22	42.21	12.9711
SELENIUM	3.819	7	0	[0.125]	>0.125<	>0.125<	none	model	0.8478	44	3	0.222	0.8478	tissue	>0.125<	22	0	0.1366	0.5217	tissue	>0.125<	22	0	0.1435	0.5480
SILVER	0.1713	7	0	[0.25]	>0.25<	>0.25<	none	model	0.0355	44	22	0.2073	0.0355	model	0.0523	22	22	0.3056	0.0523	model	0.0342	22	22	0.1997	0.0342
ZINC	0.5596	7	7	113.2	96.46	107.4	N	tissue	107.4000	44	44	71.15	39.8155	tissue	107.4000	22	22	55.82	31.2369	tissue	107.4000	22	22	52.85	29.5749
Pesticides and PCBs (µg/kg)																									
TOTAL PCB(g)	1.407	7	0	[0]	NA	NA	NA	model	25.9451	50	28	18.64	26.2265	model	52.2841	21	21	37.16	52.2841	model	41.8864	22	22	29.77	41.8864
TOTAL DDx(h)	NA	0	0	NA	NA	NA	NA	tissue	NA	21	21	5.725	NA	tissue	NA	21	21	5.725	NA	tissue	NA	22	21	3.485	NA
TOTAL 4,4-DDx(h)	4.634	7	2	29.6	26.84	27.88	N	tissue	27.8800	50	27	8.656	40.1119	tissue	27.8800	21	21	5.241	24.2868	tissue	27.8800	22	21	3.073	14.2403
DDD+DDE(h)	2.115	7	2	20.4	18.07	18.95	N	tissue	18.9500	NA	NA	NA	NA	tissue	18.9500	NA	NA	NA	NA	tissue	18.9500	NA	NA	NA	NA
4,4'-DDD	1.632	7	0	[9.2]	>8.771<	>8.986<	N	model	4.6284	50	24	2.836	4.6284	model	3.1057	21	21	1.903	3.1057	model	2.4578	22	21	1.506	2.4578
4,4'-DDE	3.0580	7	2	11.2	9.299	10.09	LN	tissue	10.0900	50	23	2.232	6.8255	tissue	10.0900	21	20	1.164	3.5595	tissue	10.0900	22	21	1.044	3.1926
4,4'-DDT	1.029	7	0	[9.2]	>8.771<	>8.986<	N	model	2.6312	50	21	2.557	2.6312	model	1.4025	21	18	1.363	1.4025	model	0.6064	22	16	0.5893	0.6064
ALDRIN	9.361	7	0	[2.3]	>2.187<	>2.243<	N	model	2.9019	50	1	0.31	2.9019	model	0.4187	21	1	0.04473	0.4187	tissue	>2.243<	22	0	0.01384	0.1296
ALPHA-BHC	NA	7	0	[2.3]	>2.187<	>2.243<	N	tissue	>2.243<	50	1	0.4	NA	tissue	>2.243<	21	1	0.06278	NA	tissue	>2.243<	22	0	0.02377	NA
ALPHA-CHLORDANE	0.6548	7	0	[2.3]	>2.187<	>2.243<	N	model	0.5591	50	5	0.8539	0.5591	model	0.1272	21	4	0.1942	0.1272	model	0.0890	22	6	0.1359	0.0890
DIELDRIN	6.5170	7	0	[4.64]	>4.39<	>4.512<	N	model	7.3642	50	3	1.13	7.3642	model	1.3445	21	3	0.2063	1.3445	model	1.5276	22	7	0.2344	1.5276
ENDOSULFAN I	NA	7	0	[4.64]	>4.39<	>4.512<	N	tissue	>4.512<	50	0	0.9121	NA	tissue	>4.512<	21	0	0.01784	NA	tissue	>4.512<	22	0	0.0173	NA
ENDOSULFAN II	NA	7	0	[4.64]	>4.39<	>4.512<	N	tissue	>4.512<	50	1	0.43	NA	tissue	>4.512<	21	1	0.1036	NA	tissue	>4.512<	22	3	0.1251	NA
ENDOSULFAN SULFATE	NA	7	0	[4.64]	>4.39<	>4.512<	N	tissue	>4.512<	50	0	1.529	NA	tissue	>4.512<	21	0	0.1649	NA	tissue	>4.512<	22	0	0.1573	NA
ENDRIN	1.614	7	0	[4.64]	>4.39<	>4.512<	N	tissue	>4.512<	50	0	2.327	3.7558	tissue	>4.512<	21	0	0.01948	0.0314	tissue	>4.512<	22	0	0.01866	0.0301
ENDRIN ALDEHYDE	NA	7	0	[9.2]	>8.771<	>8.986<	N	tissue	>8.986<	50	1	1.49	NA	tissue	>8.986<	21	1	0.1846	NA	tissue	>8.986<	22	2	0.1428	NA
GAMMA-BHC (LINDANE)	5.706	7	0	[2.3]	>2.187<	>2.243<	N	model	2.7959	50	1	0.49	2.7959	model	0.3818	21	1	0.06691	0.3818	tissue	>2.243<	22	0	0.0173	0.0987
GAMMA-CHLORDANE	NA	7	0	[2.3]	>2.187<	>2.243<	N	tissue	>2.243<	50	5	0.8271	NA	tissue	>2.243<	21	5	0.2275	NA	tissue	>2.243<	22	7	0.145	NA
HEPTACHLOR	3.854	7	0	[2.3]	>2.187<	>2.243<	N	model	0.8479	50	1	0.22	0.8479	model	0.1352	21	1	0.03508	0.1352	tissue	>2.243<	22	0	0.01384	0.0533
HEPTACHLOR EPOXIDE	3.39	7	0	[2.3]	>2.187<	>2.243<	N	model	1.0170	50	1	0.3	1.0170	model	0.1589	21	1	0.04686	0.1589	tissue	>2.243<	22	0	0.0173	0.0586
PAHs (µg/kg)																									
2-METHYLNAPHTHALENE	NA	7	0	[317]	>310.1<	>314.2<	N	tissue	>314.2<	40	22	7.8	NA	tissue	>314.2<	22	22	4.01	NA	tissue	>314.2<	22	21	34.53	NA
ACENAPHTHENE	0.333	7	0	[317]	>310.1<	>314.2<	N	model	12.3210	40	21	37	12.3210	model	8.2484	22	21	24.77	8.2484	model	270.0963	22	21	811.1	270.0963
ACENAPHTHYLENE	0.5955	7	0	[317]	>310.1<	>314.2<	N	model	10.1235	40	22	17	10.1235	model	8.7003	22	22	14.61	8.7003	model	19.4729	22	21	32.7	19.4729
ANTHRACENE	0.4224	7	0	[317]	>310.1<	>314.2<	N	model	25.7030	40	21	60.85	25.7030	model	34.1130	22	21	80.76	34.1130	model	245.1187	22	22	580.3	245.1187
BENZO(A)ANTHRACENE	0.7047	7	0	[317]	>310.1<	>314.2<	N	model	66.3193	40	24	94.11	66.3193	model	178.0777	22	22	252.7	178.0777	model	2281.1139	22	22	3237	2281.1139
BENZO(A)PYRENE	0.6425	7	0	[317]	>310.1<	>314.2<	N	model	109.9318	40	34	171.1	109.9318	model	334.8710	22	22	521.2	334.8710	model	3634.6225	22	22	5657	3634.6225
BENZO(B)FLUORANTHENE	0.7124	7	0	[317]	>310.1<	>314.2<	N	model	116.3349	40	35	163.3	116.3349	model	244.7806	22	22	343.6	244.7806	model	3232.8712	22	22	4538	3232.8712
BENZO(G,H,I)PERYLENE	0.2452	7	0	[317]	>310.1<	>314.2<	N	model	33.7395	40	33	137.6	33.7395	model	78.9544	22	22	322	78.9544	model	722.8496	22	22	2948	722.8496
BENZO(K)FLUORANTHENE	0.6096	7	0	[317]	>310.1<	>314.2<	N	model	68.0314	40	24	111.6	68.0314	model	207.2640	22	22	340	207.2640	model	2684.6784	22	22	4404	2684.6784
CHRYSENE	0.5597	7	0	[317]	>310.1<	>314.2<	N	model	75.1117	40	30	134.2	75.1117	model	211.5106	22	22	377.9	211.5106	model	2619.3960	22	22	4680	2619.3960
DIBENZO(A,H)ANTHRACENE	0.1649	7	0	[317]	>310.1<	>314.2<	N	model	9.1107	40	21	55.25	9.1107	model	11.2577	22	21	68.27	11.2577	model	133.8493	22	20	811.7	133.8493
FLUORANTHENE	1.279	7	0	[317]	>310.1<	>314.2<	N	model	215.6394	40	36	168.6	215.6394	model	450.0801	22	22	351.9	450.0801	model	6122.5730	22	22	4787	6122.5730
FLUORENE	0.2624	7	0	[166]	>162<	>164.3<	N	model	8.3968	40	21	32	8.3968	model	3.8337	22	21	14.61	3.8337	model	38.7302	22	21	147.6	38.7302
INDENO(1,2,3-CD)PYRENE	0.1765	7	0	[317]	>310.1<	>314.2<	N	model	24.4276	40	29	138.4	24.4276	model	70.5471	22	22	399.7	70.5471	model	686.7615	22	22	3891	686.7615

Table 4-13. EPCs for Macoma Dry Weight Tissue at Western Bayside (continued)

Analyte	Macoma BAF	Macoma Dry Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years						Modeled EPC - Surface Sediment, 2005						Modeled EPC - Subsurface Sediment, 2005					
		N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC
NAPHTHALENE	1.937	7	0	[317]	>310.1<	>314.2<	N	model	42.6140	40	22	22	42.6140	model	23.2246	22	22	11.99	23.2246	model	65.6643	22	22	33.9	65.6643
PHENANTHRENE	0.1771	7	0	[317]	>310.1<	>314.2<	N	model	12.9088	40	27	72.89	12.9088	model	8.8904	22	22	50.2	8.8904	model	337.3755	22	22	1905	337.3755
PYRENE	1.8480	7	0	[317]	>310.1<	>314.2<	N	model	360.7296	40	38	195.2	360.7296	model	609.4704	22	22	329.8	609.4704	model	9655.8000	22	22	5225	9655.8000
TOTAL PAH (12)[h]	NA	7	0	[3653]	>3574<	>3620<	N	tissue	>3620<	40	38	1104	NA	tissue	>3620<	22	22	2103	NA	tissue	>3620<	22	22	25160	NA
TOTAL LPAH (7)[h]	NA	7	0	[2068]	>2023<	>2049<	N	tissue	>2049<	40	27	360.4	NA	tissue	>2049<	22	22	262.3	NA	tissue	>2049<	22	22	3301	NA
TOTAL LPAH (6)[h]	0.3578	7	0	[1751]	>1713<	>1735<	N	model	112.4208	40	27	314.2	112.4208	model	93.3858	22	22	261	93.3858	model	1179.6666	22	22	3297	1179.6666
TOTAL HPAH (10)[h]	0.9883	7	0	[3170]	>3101<	>3142<	N	model	1336.1816	40	38	1352	1336.1816	model	3208.0218	22	22	3246	3208.0218	model	36922.8880	22	22	37360	36922.8880
TOTAL HPAH (6)[h]	1.168	7	0	[1902]	>1861<	>1885<	N	model	943.8608	40	38	808.1	943.8608	model	2164.3040	22	22	1853	2164.3040	model	25696.0000	22	22	22000	25696.0000
Organotins (µg/kg)																									
TRIBUTYL TIN	0.8877	7	0	[27]	>13<	>20.67<	NP	model	3.3928	40	26	3.822	3.3928	model	0.9507267	22	17	1.071	0.9507267	model	1.0306197	22	19	1.161	1.0306197

NA = not applicable
(a) N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum.
(h) Totals with ND=1/2 DL in Sum.

Table 4-14. EPCs for Macoma Wet Weight Tissue at Western Bayside

Analyte	Macoma BAF	Macoma Wet Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years						Modeled EPC - Surface Sediment, 2005						Modeled EPC - Subsurface Sediment, 2005					
		N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC
Inorganics (mg/kg)																									
ANTIMONY	0.0317	7	0	[0.059]	>0.05714<	>0.0587<	N	model	0.3099	44	17	9.777	0.3099	model	0.0027	22	4	0.0865	0.0027	model	0.0029	22	4	0.09114	0.0029
ARSENIC	0.5021	7	7	3.064	2.751	2.966	N	tissue	2.9660	44	42	5.772	2.8981	tissue	2.9660	22	22	4.233	2.1254	tissue	2.9660	22	22	4.329	2.1736
CADMIUM	0.0193	7	0	[0.01475]	>0.01429<	>0.01467<	N	model	0.0027	44	24	0.1383	0.0027	model	0.0035	22	21	0.183	0.0035	model	0.0063	22	21	0.3252	0.0063
CHROMIUM	0.0314	7	0	[0.0295]	>0.02857<	>0.02935<	N	model	2.3698	44	44	75.47	2.3698	model	1.8934	22	22	60.3	1.8934	model	1.8014	22	22	57.37	1.8014
COPPER	0.028	7	7	1.654	1.134	1.328	N	tissue	1.3280	44	44	25.16	0.7045	tissue	1.3280	22	22	23.36	0.6541	tissue	1.3280	22	22	22.07	0.6180
LEAD	0.0083	7	5	0.4459	0.1332	<0.4459>	LN	tissue	<0.4459>	44	44	17.89	0.1485	tissue	<0.4459>	22	22	19.08	0.1584	tissue	<0.4459>	22	22	19.48	0.1617
MERCURY	0.0353	7	3	0.0274	0.009781	0.0168	NP	tissue	0.0168	43	39	0.2123	0.0075	tissue	0.0168	21	21	0.2064	0.0073	tissue	0.0168	22	22	0.2821	0.0100
NICKEL	0.051	7	3	0.7388	0.282	0.4702	NP	tissue	0.4702	44	44	45.84	2.3378	tissue	0.4702	22	22	41.15	2.0987	tissue	0.4702	22	22	42.21	2.1527
SELENIUM	0.6191	7	0	[0.01475]	>0.01429<	>0.01467<	N	model	0.1374	44	3	0.222	0.1374	tissue	>0.01467<	22	0	0.1366	0.0846	tissue	>0.01467<	22	0	0.1435	0.0888
SILVER	0.0283	7	0	[0.0295]	>0.02857<	>0.02935<	N	model	0.0059	44	22	0.2073	0.0059	model	0.0086	22	22	0.3056	0.0086	model	0.0057	22	22	0.1997	0.0057
ZINC	0.0927	7	7	12.88	11.02	12.29	N	tissue	12.2900	44	44	71.15	6.5956	tissue	12.2900	22	22	55.82	5.1745	tissue	12.2900	22	22	52.85	4.8992
Pesticides and PCBs (µg/kg)																									
TOTAL PCB[g]	0.2274	7	0	NA	NA	NA	NA	model	4.2387	50	28	18.64	4.2387	model	8.4502	21	21	37.16	8.4502	model	6.7697	22	22	29.77	6.7697
TOTAL DDx[h]	NA	0	0	NA	NA	NA	NA	tissue	NA	21	21	5.725	NA	tissue	NA	21	21	5.725	NA	tissue	NA	22	21	3.485	NA
TOTAL 4,4-DDx[h]	0.8171	7	2	3.218	3.059	3.118	NP	tissue	3.1180	50	27	8.656	7.0728	tissue	3.1180	21	21	5.241	4.2824	tissue	3.1180	22	21	3.073	2.5109
DDD+DDE[h]	0.3437	7	2	2.219	2.06	2.118	NP	tissue	2.1180	NA	NA	NA	NA	tissue	2.1180	NA	NA	NA	NA	tissue	2.1180	NA	NA	NA	NA
4,4'-DDD	0.2253	7	0	[1.014]	>0.9987<	>1.002<	NP	model	0.6390	50	24	2.836	0.6390	model	0.4287	21	21	1.903	0.4287	model	0.3393	22	21	1.506	0.3393
4,4'-DDE	0.1910	7	2	1.22	1.062	1.119	NP	tissue	1.1190	50	23	2.232	0.4263	tissue	1.1190	21	20	1.164	0.2223	tissue	1.1190	22	21	1.044	0.1994
4,4'-DDT	0.4649	7	0	[1.014]	>0.9987<	>1.002<	NP	model	1.1887	50	21	2.557	1.1887	model	0.6337	21	18	1.363	0.6337	model	0.2740	22	16	0.5893	0.2740
ALDRIN	1.459	7	0	[0.2511]	>0.249<	>0.2498<	N	model	0.4523	50	1	0.31	0.4523	model	0.0653	21	1	0.04473	0.0653	tissue	>0.2498<	22	0	0.01384	0.0202
ALPHA-BHC	NA	7	0	[0.2511]	>0.249<	>0.2498<	N	tissue	>0.2498<	50	1	0.4	NA	tissue	>0.2498<	21	1	0.06278	NA	tissue	>0.2498<	22	0	0.02377	NA
ALPHA-CHLORDANE	0.1046	7	0	[0.2511]	>0.249<	>0.2498<	N	model	0.0893	50	5	0.8539	0.0893	model	0.0203	21	4	0.1942	0.0203	model	0.0142	22	6	0.1359	0.0142
DIELDRIN	1.0820	7	0	[0.5004]	>0.4997<	>0.5001<	N	model	1.2227	50	3	1.13	1.2227	model	0.2232	21	3	0.2063	0.2232	model	0.2536	22	7	0.2344	0.2536
ENDOSULFAN I	NA	7	0	[0.5004]	>0.4997<	>0.5001<	N	tissue	>0.5001<	50	0	0.9121	NA	tissue	>0.5001<	21	0	0.01784	NA	tissue	>0.5001<	22	0	0.0173	NA
ENDOSULFAN II	NA	7	0	[0.5004]	>0.4997<	>0.5001<	N	tissue	>0.5001<	50	1	0.43	NA	tissue	>0.5001<	21	1	0.1036	NA	tissue	>0.5001<	22	3	0.1251	NA
ENDOSULFAN SULFATE	NA	7	0	[0.5004]	>0.4997<	>0.5001<	N	tissue	>0.5001<	50	0	1.529	NA	tissue	>0.5001<	21	0	0.1649	NA	tissue	>0.5001<	22	0	0.1573	NA
ENDRIN	0.2925	7	0	[0.5004]	>0.4997<	>0.5001<	N	tissue	>0.5001<	50	0	2.327	0.6806	tissue	>0.5001<	21	0	0.01948	0.0057	tissue	>0.5001<	22	0	0.01866	0.0055
ENDRIN ALDEHYDE	NA	7	0	[1.014]	>0.9987<	>1.003<	NP	tissue	>1.003<	50	1	1.49	NA	tissue	>1.003<	21	1	0.1846	NA	tissue	>1.003<	22	2	0.1428	NA
GAMMA-BHC (LINDANE)	NA	7	0	[0.2511]	>0.249<	>0.2498<	N	tissue	>0.2498<	50	1	0.49	NA	tissue	>0.2498<	21	1	0.06691	NA	tissue	>0.2498<	22	0	0.0173	NA
GAMMA-CHLORDANE	0.9261	7	0	[0.2511]	>0.249<	>0.2498<	N	model	0.7660	50	5	0.8271	0.7660	model	0.2107	21	5	0.2275	0.2107	model	0.1343	22	7	0.145	0.1343
HEPTACHLOR	0.6322	7	0	[0.2511]	>0.249<	>0.2498<	N	model	0.1391	50	1	0.22	0.1391	model	0.0222	21	1	0.03508	0.0222	tissue	>0.2498<	22	0	0.01384	0.0087
HEPTACHLOR EPOXIDE	0.5561	7	0	[0.2511]	>0.249<	>0.2498<	N	model	0.1668	50	1	0.3	0.1668	model	0.0261	21	1	0.04686	0.0261	tissue	>0.2498<	22	0	0.0173	0.0096
PAHs (µg/kg)																									
2-METHYLNAPHTHALENE	NA	7	0	[33.56]	>33.54<	>33.55<	N	tissue	>33.55<	40	22	7.8	NA	tissue	>33.55<	22	22	4.01	NA	tissue	>33.55<	22	21	34.53	NA
ACENAPHTHENE	0.0596	7	0	[33.56]	>33.54<	>33.55<	N	model	2.2052	40	21	37	2.2052	model	1.4763	22	21	24.77	1.4763	model	48.3416	22	21	811.1	48.3416
ACENAPHTHYLENE	0.1071	7	0	[33.56]	>33.54<	>33.55<	N	model	1.8207	40	22	17	1.8207	model	1.5647	22	22	14.61	1.5647	model	3.5022	22	21	32.7	3.5022
ANTHRACENE	0.0758	7	0	[33.56]	>33.54<	>33.55<	N	model	4.6124	40	21	60.85	4.6124	model	6.1216	22	21	80.76	6.1216	model	43.9867	22	22	580.3	43.9867
BENZO(A)ANTHRACENE	0.1262	7	0	[33.56]	>33.54<	>33.55<	N	model	11.8767	40	24	94.11	11.8767	model	31.8907	22	22	252.7	31.8907	model	408.5094	22	22	3237	408.5094
BENZO(A)PYRENE	0.1145	7	0	[33.56]	>33.54<	>33.55<	N	model	19.5910	40	34	171.1	19.5910	model	59.6774	22	22	521.2	59.6774	model	647.7265	22	22	5657	647.7265
BENZO(B)FLUORANTHENE	0.1268	7	0	[33.56]	>33.54<	>33.55<	N	model	20.7064	40	35	163.3	20.7064	model	43.5685	22	22	343.6	43.5685	model	575.4184	22	22	4538	575.4184
BENZO(G,H,I)PERYLENE	0.0424	7	0	[33.56]	>33.54<	>33.55<	N	model	5.8342	40	33	137.6	5.8342	model	13.6528	22	22	322	13.6528	model	124.9952	22	22	2948	124.9952
BENZO(K)FLUORANTHENE	0.1077	7	0	[33.56]	>33.54<	>33.55<	N	model	12.0193	40	24	111.6	12.0193	model	36.6180	22	22	340	36.6180	model	474.3108	22	22	4404	474.3108
CHRYSENE	0.0998	7	0	[33.56]	>33.54<	>33.55<	N	model	13.3932	40	30	134.2	13.3932	model	37.7144	22	22	377.9	37.7144	model	467.0640	22	22	4680	467.0640
DIBENZO(A,H)ANTHRACENE	0.0291	7	0	[33.56]	>33.54<	>33.55<	N	model	1.6078	40	21	55.25	1.6078	model	1.9867	22	21	68.27	1.9867	model	23.6205	22	20	811.7	23.6205
FLUORANTHENE	0.2313	7	0	[33.56]	>33.54<	>33.55<	N	model	38.9972	40	36	168.6	38.9972	model	81.3945	22	22	351.9	81.3945	model	1107.2331	22	22	4787	1107.2331
FLUORENE	0.0457	7	0	[17.56]	>17.52<	>17.54<	N	model	1.4624	40	21	32	1.4624	model	0.6677	22	21	14.61	0.6677	model	6.7453	22	21	147.6	6.7453
INDENO(1,2,3-CD)PYRENE	0.0307	7	0	[33.56]	>33.54<	>33.55<	N	model	4.2489	40	29	138.4	4.2489	model	12.2708	22	22	399.7	12.2708	model	119.4537	22	22	3891	119.4537
NAPHTHALENE	0.3203	7	0	[33.56]	>33.54<	>33.55<	N	model	7.0466	40	22	22	7.0466	model	3.8404	22	22	11.99	3.8404	model	10.8582	22	22	33.9	10.8582
PHENANTHRENE	0.0304	7	0	[33.56]	>33.54<	>33.55<	N	model	2.2159	40	27	72.89	2.2159	model	1.5261	22	22	50.2	1.5261	model	57.9120	22	22	1905	57.9120

Table 4-14. EPCs for Macoma Wet Weight Tissue at Western Bayside (continued)

Analyte	Macoma BAF	Macoma Wet Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years						Modeled EPC - Surface Sediment, 2005						Modeled EPC - Subsurface Sediment, 2005					
		N(a)	D(b)	Max(c)	Mean(d)	95%UCL(e)	Dist(f)	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC	EPC Type	EPC	Sediment N	Sediment D	Sediment EPC	Macoma EPC
PYRENE	0.3340	7	0	[33.56]	>33.54<	>33.55<	N	model	65.1968	40	38	195.2	65.1968	model	110.1532	22	22	329.8	110.1532	model	1745.1500	22	22	5225	1745.1500
TOTAL PAH (12)(h)	NA	7	0	[386.7]	>386.5<	>386.6<	N	tissue	>386.6<	40	38	1104	NA	tissue	>386.6<	22	22	2103	NA	tissue	>386.6<	22	22	25160	NA
TOTAL LPAH (7)(h)	NA	7	0	[218.9]	>218.8<	>218.8<	NP	tissue	>218.8<	40	27	360.4	NA	tissue	>218.8<	22	22	262.3	NA	tissue	>218.8<	22	22	3301	NA
TOTAL LPAH (6)(h)	0.0630	7	0	[185.3]	>185.2<	>185.3<	NP	model	19.7946	40	27	314.2	19.7946	model	16.4430	22	22	261	16.4430	model	207.7110	22	22	3297	207.7110
TOTAL HPAH (10)(h)	0.1777	7	0	[335.6]	>335.4<	>335.5<	N	model	240.2504	40	38	1352	240.2504	model	576.8142	22	22	3246	576.8142	model	6638.8720	22	22	37360	6638.8720
TOTAL HPAH (6)(h)	0.2105	7	0	[201.4]	>201.3<	>201.3<	N	model	170.1051	40	38	808.1	170.1051	model	390.0565	22	22	1853	390.0565	model	4631.0000	22	22	22000	4631.0000
Organotins (µg/kg)																									
TRIBUTYL TIN	NA	7	0	[3.235]	>1.476<	>2.359<	NP	tissue	>2.359<	40	26	3.822	NA	tissue	>2.359<	22	17	1.071	NA	tissue	>2.359<	22	19	1.161	NA

NA = not applicable
(a) N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum.
(h) Totals with ND=1/2 DL in Sum.

Table 4-15. EPCs for Macoma Dry Weight Tissue at Breakwater Beach

Analyte	EPC type	EPC	Macoma Dry Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years				
									Sediment			Macoma	
			N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N	D	EPC	BAF	EPC
Inorganics (mg/kg)													
ANTIMONY	tissue	0.05074	5	5	0.056	0.0434	0.05074	N	31	21	0.9275	0.1974	0.1831
ARSENIC	tissue	25.48	5	5	25.48	21.1	25.48	N	31	29	7.894	3.009	23.7530
CADMIUM	tissue	0.2501	5	5	0.266	0.2232	0.2501	N	31	12	0.1809	0.1218	0.0220
CHROMIUM	tissue	53	5	5	68	31.26	53	N	31	31	96.51	0.1917	18.5010
COPPER	tissue	16.58	5	5	17.52	13.49	16.58	N	31	31	46.52	0.1681	7.8200
LEAD	tissue	2.023	5	5	2.076	1.686	2.023	N	31	31	27.92	0.0528	1.4742
MERCURY	tissue	<0.06>	5	4	[0.19]	0.082	<0.06>	NP	30	30	0.324	0.2165	0.0701
NICKEL	tissue	35.85	5	5	43.42	23.16	35.85	N	31	31	65.7	0.3073	20.1896
SELENIUM	tissue	<3>	5	3	[4]	2.62	<3>	N	31	10	0.6806	3.819	2.5992
SILVER	tissue	0.2699	5	5	0.29	0.217	0.2699	N	31	14	0.4718	0.1713	0.0808
ZINC	tissue	<111>	5	5	111	94.56	<111>	N	31	31	119.9	0.5596	67.0960
Pesticides and PCBs (μg/kg)													
TOTAL PCB[g]	tissue	95.87	5	5	125	53.56	95.87	N	31	14	24.18	1.407	34.0213
TOTAL DDx[h]	tissue	<17.64>	3	3	17.64	16.76	<17.64>	N	10	10	4.81	NA	NA
TOTAL 4,4-DDx[h]	tissue	<15.53>	3	3	15.53	14.81	<15.53>	N	31	11	6.2	4.634	28.7308
DDD+DDE[h]	tissue	14.91	5	5	15.1	13	14.91	N	NA	NA	NA	2.115	NA
4,4'-DDD	tissue	6.725	5	5	7.2	5.72	6.725	N	31	7	1.857	1.632	3.0306
4,4'-DDE	tissue	9.542	5	5	10	7.28	9.542	N	31	10	1.561	3.058	4.7735
4,4'-DDT	tissue	2.012	3	1	2.8	1.21	2.012	NP	31	6	2.1	1.029	2.1609
2,4'-DDD	tissue	<1.7>	5	4	1.7	1.298	<1.7>	NP	10	6	0.9291	0.2253	0.2093
2,4'-DDE	model	0.0260715	5	0	[0.75]	>0.553<	>0.7479<	N	10	4	0.1365	0.191	0.0261
2,4'-DDT	model	0.10529985	5	0	[0.85]	>0.617<	>0.8402<	N	10	5	0.2265	0.4649	0.1053
ALDRIN	model	3.08913	5	0	[0.46]	>0.337<	>0.4583<	N	31	1	0.33	9.361	3.0891
ALPHA-BHC	tissue	>NA <	0	0	NA	NA	NA	NA	26	0	1.892	NA	NA
ALPHA-CHLORDANE	tissue	0.8728	5	1	1.1	0.547	0.8728	N	31	5	0.1913	0.6548	0.1253
DIELDRIN	tissue	<2>	5	5	2	1.72	<2>	N	31	5	0.6221	6.517	4.0542
ENDOSULFAN I	tissue	NA	0	0	NA	NA	NA	NA	26	0	1.891	NA	NA
ENDOSULFAN II	tissue	NA	0	0	NA	NA	NA	NA	26	1	3.907	NA	NA
ENDOSULFAN SULFATE	tissue	NA	0	0	NA	NA	NA	NA	26	0	3.666	NA	NA
ENDRIN	tissue	>0.24<	2	0	[0.24]	>0.235<	>0.24<	NA	31	0	3.176	1.614	5.1261
ENDRIN ALDEHYDE	tissue	NA	0	0	NA	NA	NA	NA	26	0	3.707	NA	NA
GAMMA-BHC (LINDANE)	tissue	<1.5>	5	1	1.5	0.6369	<1.5>	LN	28	0	1.77	5.706	10.0996
GAMMA-CHLORDANE	tissue	NA	0	0	NA	NA	NA	NA	26	5	1.109	NA	NA

Table 4-15. EPCs for Macoma Dry Weight Tissue at Breakwater Beach (continued)

Analyte	EPC type	EPC	Macoma Dry Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years				
									Sediment			Macoma	
			N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N	D	EPC	BAF	EPC
HEPTACHLOR	tissue	>0.5884<	5	0	[0.6]	>0.437<	>0.5884<	N	31	0	1.633	3.854	6.2936
HEPTACHLOR EPOXIDE	tissue	>0.5394<	5	0	[0.55]	>0.396<	>0.5394<	N	31	0	1.632	3.39	5.5325
PAHs (μg/kg)													
ACENAPHTHENE	tissue	3.898	5	4	4	2.9	3.898	N	31	10	87.4	0.333	29.1042
ACENAPHTHYLENE	tissue	13.3	5	5	17	8.04	13.3	N	31	10	37	0.5955	22.0335
ANTHRACENE	tissue	66.68	5	5	90	34.52	66.68	N	31	11	146.6	0.4224	61.9238
BENZO(A)ANTHRACENE	tissue	<380>	5	5	380	109.6	<380>	LN	31	13	211.8	0.7047	149.2555
BENZO(A)PYRENE	tissue	120.2	5	5	160	70.2	120.2	N	31	19	230.6	0.6425	148.1605
BENZO(B)FLUORANTHENE	tissue	<320>	5	5	320	118.9	<320>	LN	31	19	265.4	0.7124	189.0710
BENZO(G,H,I)PERYLENE	tissue	36.26	5	4	38	28.8	36.26	N	31	15	164.2	0.2452	40.2618
BENZO(K)FLUORANTHENE	tissue	87.87	5	5	93	47.63	87.87	LN	31	13	168.1	0.6096	102.4738
CHRYSENE	tissue	<260>	5	5	260	88.91	<260>	LN	31	13	238.5	0.5597	133.4885
DIBENZO(A,H)ANTHRACENE	tissue	5.268	5	5	6.6	3.6	5.268	N	31	10	30.5	0.1649	5.0295
FLUORANTHENE	tissue	<820>	5	5	820	230.3	<820>	LN	31	16	412.5	1.279	527.5875
FLUORENE	tissue	<5.4>	5	2	[22.5]	6.619	<5.4>	LN	31	10	108	0.2624	28.3392
INDENO(1,2,3-CD)PYRENE	tissue	28.71	5	5	34	20.2	28.71	N	31	14	160.4	0.1765	28.3106
NAPHTHALENE	tissue	<7.4>	5	1	[24]	19.18	<7.4>	NP	31	10	29.8	1.937	57.7226
PHENANTHRENE	tissue	24.44	5	1	25	22.7	24.44	N	31	13	219.1	0.1771	38.8026
PYRENE	tissue	<1300>	5	5	1300	344.6	<1300>	LN	31	21	441.3	1.848	815.5224
TOTAL PAH (12)[h]	tissue	<3082>	5	5	3082	946.7	<3082>	LN	31	21	2600	NA	NA
TOTAL LPAH (6)[h]	tissue	128.9	5	5	155.7	94.47	128.9	N	31	13	864.5	0.3578	309.3181
TOTAL HPAH (10)[h]	tissue	<3410>	5	5	3410	1068	<3410>	LN	31	21	2394	0.9883	2365.9902
TOTAL HPAH (6)[h]	tissue	<2927>	5	5	2927	848	<2927>	LN	31	21	1620	1.168	1892.1600
Organotins (μg/kg)													
TRIBUTYL TIN	tissue	19.96	5	2	23	15.9	19.96	N	31	5	3.066	0.8877	2.7216882

NA = not applicable
(a)_ N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum.
(h) Totals with ND=1/2 DL in Sum.

Table 4-16. EPCs for Macoma Wet Weight Tissue at Breakwater Beach

Analyte	EPC type	EPC	Macoma Wet Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years				
									Sediment			Macoma	
			N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N	D	EPC	BAF	EPC
Inorganics (mg/kg)													
ANTIMONY	tissue	<0.009016>	5	5	0.009016	0.007636	<0.009016>	N	31	21	0.9275	0.0317	0.0294
ARSENIC	tissue	4.569	5	5	5.071	3.684	4.569	N	31	29	7.894	0.5021	3.9636
CADMIUM	tissue	0.04774	5	5	0.05293	0.03939	0.04774	N	31	12	0.1809	0.0193	0.0035
CHROMIUM	tissue	8.401	5	5	10.95	5.129	8.401	N	31	31	96.51	0.0314	3.0304
COPPER	tissue	<2.86>	5	5	2.86	2.352	<2.86>	N	31	31	46.52	0.028	1.3026
LEAD	tissue	0.3484	5	5	0.3571	0.2932	0.3484	N	31	31	27.92	0.0083	0.2317
MERCURY	tissue	<0.01095>	5	4	[0.02527]	0.01323	<0.01095>	NP	30	30	0.324	0.0353	0.0114
NICKEL	tissue	5.672	5	5	6.991	3.84	5.672	N	31	31	65.7	0.051	3.3507
SELENIUM	tissue	0.5723	5	3	0.597	0.4422	0.5723	N	31	10	0.6806	0.6191	0.4214
SILVER	tissue	0.04695	5	5	0.04988	0.03782	0.04695	N	31	14	0.4718	0.0283	0.0134
ZINC	tissue	19.67	5	5	22.09	16.45	19.67	N	31	31	119.9	0.0927	11.1147
Pesticides and PCBs (µg/kg)													
TOTAL PCB[g]	tissue	16.95	5	5	22.1	9.469	16.95	N	31	14	24.18	0.2274	5.4985
Total DDx[h]	tissue	<3.119>	3	3	3.119	2.963	<3.119>	N	10	10	4.81	NA	NA
Total 4,4-DDx[h]	tissue	<2.745>	3	3	2.745	2.618	<2.745>	N	31	11	6.2	0.8171	5.0660
DDD+DDE[h]	tissue	2.636	5	5	2.67	2.298	2.636	N	NA	NA	NA	0.3437	NA
4,4'-DDD	tissue	1.189	5	5	1.273	1.011	1.189	N	31	7	1.857	0.262	0.4865
4,4'-DDE	tissue	1.687	5	5	1.768	1.287	1.687	N	31	10	1.561	0.5032	0.7855
4,4'-DDT	tissue	0.3557	3	1	0.495	0.2139	0.3557	NP	31	6	2.1	0.1807	0.3795
2,4'-DDD	tissue	<0.3006>	5	4	0.3006	0.2295	<0.3006>	NP	10	6	0.9291	0.2253	0.2093
2,4'-DDE	model	0.0260715	5	0	[0.1326]	>0.09777<	>0.1322<	N	10	4	0.1365	0.191	0.0261
2,4'-DDT	model	0.10529985	5	0	[0.1503]	>0.1091<	>0.1486<	N	10	5	0.2265	0.4649	0.1053
ALDRIN	model	0.48147	5	0	[0.08133]	>0.05958<	>0.08102<	N	31	1	0.33	1.459	0.4815
ALPHA-BHC	tissue	>NA <	0	0	NA	NA	NA	NA	26	0	1.892	NA	NA
ALPHA-CHLORDANE	tissue	0.1543	5	1	0.1945	0.09671	0.1543	N	31	5	0.1913	0.1046	0.0200
DIELDRIN	tissue	<0.3536>	5	5	0.3536	0.3041	<0.3536>	N	31	5	0.6221	1.082	0.6731
ENDOSULFAN I	tissue	NA	0	0	NA	NA	NA	NA	26	0	1.891	NA	NA
ENDOSULFAN II	tissue	NA	0	0	NA	NA	NA	NA	26	1	3.907	NA	NA
ENDOSULFAN SULFATE	tissue	NA	0	0	NA	NA	NA	NA	26	0	3.666	NA	NA
ENDRIN	tissue	>0.04243<	2	0	[0.04243]	>0.04155<	>0.04243<	NA	31	0	3.176	0.2925	0.9290
ENDRIN ALDEHYDE	tissue	NA	0	0	NA	NA	NA	NA	26	0	3.707	NA	NA
GAMMA-BHC (LINDANE)	tissue	<0.2652>	5	1	0.2652	0.1126	<0.2652>	LN	28	0	1.77	NA	NA

Table 4-16. EPCs for Macoma Wet Weight Tissue at Breakwater Beach (continued)

Analyte	EPC type	EPC	Macoma Wet Weight Tissue EPC						Modeled EPC - Surface Sediment, All Years				
									Sediment			Macoma	
			N[a]	D[b]	Max[c]	Mean[d]	95%UCL[e]	Dist[f]	N	D	EPC	BAF	EPC
GAMMA-CHLORDANE	model	1.0270449	0	0	NA	NA	NA	NA	26	5	1.109	0.9261	1.0270
HEPTACHLOR	tissue	>0.104<	5	0	[0.1061]	>0.07726<	>0.104<	N	31	0	1.633	0.6322	1.0324
HEPTACHLOR EPOXIDE	tissue	>0.09537<	5	0	[0.09724]	>0.07001<	>0.09537<	N	31	0	1.632	0.5561	0.9076
PAHs (µg/kg)													
ACENAPHTHENE	tissue	0.6891	5	4	0.7072	0.5127	0.6891	N	31	10	87.4	0.0596	5.2090
ACENAPHTHYLENE	tissue	2.352	5	5	3.006	1.421	2.352	N	31	10	37	0.1071	3.9627
ANTHRACENE	tissue	11.79	5	5	15.91	6.103	11.79	N	31	11	146.6	0.0758	11.1123
BENZO(A)ANTHRACENE	tissue	<67.18>	5	5	67.18	19.37	<67.18>	LN	31	13	211.8	0.1262	26.7292
BENZO(A)PYRENE	tissue	21.25	5	5	28.29	12.41	21.25	N	31	19	230.6	0.1145	26.4037
BENZO(B)FLUORANTHENE	tissue	<56.58>	5	5	56.58	21.03	<56.58>	LN	31	19	265.4	0.1268	33.6527
BENZO(G,H,I)PERYLENE	tissue	6.41	5	4	6.718	5.092	6.41	N	31	15	164.2	0.0424	6.9621
BENZO(K)FLUORANTHENE	tissue	15.54	5	5	16.44	8.421	15.54	LN	31	13	168.1	0.1077	18.1044
CHRYSENE	tissue	<45.97>	5	5	45.97	15.72	<45.97>	LN	31	13	238.5	0.0998	23.8023
DIBENZO(A,H)ANTHRACENE	tissue	0.9313	5	5	1.167	0.6365	0.9313	N	31	10	30.5	0.0291	0.8876
FLUORANTHENE	tissue	<145>	5	5	145	40.71	<145>	LN	31	16	412.5	0.2313	95.4113
FLUORENE	tissue	<0.9547>	5	2	[3.978]	1.17	<0.9547>	LN	31	10	108	0.0457	4.9356
INDENO(1,2,3-CD)PYRENE	tissue	5.076	5	5	6.011	3.571	5.076	N	31	14	160.4	0.0307	4.9243
NAPHTHALENE	tissue	<1.308>	5	1	[4.243]	3.391	<1.308>	NP	31	10	29.8	0.3203	9.5449
PHENANTHRENE	tissue	4.321	5	1	4.42	4.013	4.321	N	31	13	219.1	0.0304	6.6606
PYRENE	tissue	<229.8>	5	5	229.8	60.93	<229.8>	LN	31	21	441.3	0.334	147.3942
Total PAH (12)[h]	tissue	<545>	5	5	545	167.4	<545>	LN	31	21	2600	NA	NA
Total LPAH (6)[h]	tissue	22.8	5	5	27.53	16.7	22.8	N	31	13	864.5	0.063	54.4635
Total HPAH (10)[h]	tissue	<602.8>	5	5	602.8	188.9	<602.8>	LN	31	21	2394	0.1777	425.4138
Total HPAH (6)[h]	tissue	<517.4>	5	5	517.4	149.9	<517.4>	LN	31	21	1620	0.2105	341.0100
Organotins (µg/kg)													
TRIBUTYL TIN	tissue	2.959	5	2	3.059	2.71	2.959	NP	31	5	3.066	NA	NA

NA = not applicable
(a) N=Number of samples analyzed. Caution, if N<5 the EPCs have limited utility.
(b) D=number of detected results. Caution: If D/N<25%, EPCs have limited utility.
(c) Max=maximum result; [ ] indicates that the maximum result was a non-detect reported at half the detection limit.
(d) The Mean is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects
(e) 95%UCL=95% Upper Confidence Limit. This EPC is calculated based on a distribution assumption, where distributions are normal, lognormal, or neither (nonparametric); values enclosed in "><" indicate an estimate based solely on non-detects; values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).
(f) Dist=distribution that the data conform to based on the Shapiro Wilk goodness of fit test. N=Normal, LN=Lognormal, NP=nonparametric; none=too few samples to run a distribution test OR all samples reported at same value.
(g) Totals with ND=0 in Sum.
(h) Totals with ND=1/2 DL in Sum.

Table 4-17. EPCs for Forage Fish Dry Weight Tissue at Western Bayside

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d]	All Years Forage Fish EPC (95%UCL)[e]	2005 Surface Sediment EPC (95%UCL)[d]	2005 Surface Forage Fish EPC (95%UCL)[e]	2005 Subsurface Sediment EPC (95%UCL)[d]	2005 Subsurface Forage Fish EPC (95%UCL)[e]
				dry wt	dry wt	dry wt	dry wt	dry wt	dry wt
Inorganics (mg/kg)									
ANTIMONY	0.0081	34	0	9.777	0.0791937	0.06534	0.000529254	0.1053	0.00085293
ARSENIC	0.1275	34	1	5.772	0.73593	4.331	0.5522025	4.644	0.59211
CADMIUM	0.0274	34	34	0.1383	0.00378942	0.1775	0.0048635	0.4067	0.01114358
CHROMIUM	0.0154	34	13	75.47	1.162238	60.66	0.934164	62.34	0.960036
COPPER	0.0807	34	34	25.16	2.030412	24.88	2.007816	22.98	1.854486
LEAD	0.0173	34	34	17.89	0.309497	17.19	0.297387	18.92	0.327316
MERCURY	0.2528	34	34	0.2123	0.05366944	0.2219	0.05609632	0.4321	0.10923488
NICKEL	0.0052	34	4	45.84	0.238368	42.91	0.223132	45.37	0.235924
SELENIUM	1.7565	34	0	0.222	0.389943	0.1415	0.24854475	0.1533	0.26927145
SILVER	0.0316	34	10	0.2073	0.00655068	0.1544	0.00487904	0.2584	0.00816544
ZINC	0.3429	34	30	71.15	24.397335	52.1	17.86509	55.13	18.904077
Pesticides & PCBs (µg/kg)									
Total PCB	3.1239	34	34	18.64	58.23	37.16	116.08	29.77	93.00
Total 4,4-DDx	4.5546	34	34	8.656	39.42	5.241	23.87	3.073	14.00
Total DDx	NA	NA	NA	5.725	NA	5.725	NA	3.485	NA
DDD+DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	0.028	34	0	0.3638	0.0101864	0.4695	0.013146	0.2194	0.0061432
2,4'-DDE	1.4121	34	0	0.09936	0.140306256	0.1259	0.17778339	0.01796	0.025361316
2,4'-DDT	0.454	34	0	0.1499	0.0680546	0.02988	0.01356552	0.1034	0.0469436
4,4'-DDD	3.4486	34	34	2.836	9.7802296	2.3	7.93178	1.408	4.8556288
4,4'-DDE	8.6477	34	34	2.232	19.3016664	1.344	11.6225088	1.04	8.993608
4,4'-DDT	0.7632	34	30	2.557	1.9515024	1.473	1.1241936	0.5687	0.43403184
ALDRIN	0.06	34	0	0.31	0.0186	0.05538	0.0033228	0.01458	0.0008748
ALPHA-BHC	0.0506	34	0	0.4	0.02024	0.07604	0.003847624	0.02512	0.001271072
ALPHA-CHLORDANE	2.3802	34	34	0.8539	2.03245278	0.2501	0.59528802	0.1257	0.29919114
DIELDRIN	1.475	34	34	1.13	1.66675	0.2612	0.38527	0.2512	0.37052
ENDOSULFAN I	0.0552	34	0	0.9121	0.05034792	0.01779	0.000982008	0.01793	0.000989736
ENDOSULFAN II	0.0609	34	0	0.43	0.026187	0.117	0.0071253	0.1475	0.00898275
ENDOSULFAN SULFATE	0.0458	34	0	1.529	0.0700282	0.1693	0.00775394	0.1663	0.00761654
ENDRIN	0.0136	34	0	2.327	0.0316472	0.0202	0.00027472	0.01969	0.000267784
ENDRIN ALDEHYDE	0.027	34	0	1.49	0.04023	0.2349	0.0063423	0.1853	0.0050031
GAMMA-BHC (LINDANE)	0.0751	34	0	0.49	0.036799	0.08297	0.006231047	0.01793	0.001346543
GAMMA-CHLORDANE	0.7961	34	34	0.8271	0.65845431	0.2885	0.22967485	0.1612	0.12833132
HEPTACHLOR	0.0471	34	0	0.22	0.010362	0.04279	0.002015409	0.01458	0.000686718
HEPTACHLOR EPOXIDE	0.0553	34	0	0.3	0.01659	0.05659	0.003129427	0.01796	0.000993188
PAHs (µg/kg)									
2-METHYLNAPHTHALENE	0.0301	34	14	7.8	0.23478	4.245	0.1277745	6.604	0.1987804
ACENAPHTHENE	0.1805	34	34	37	6.6785	20.27	3.658735	18	3.249
ACENAPHTHYLENE	0.0096	34	19	17	0.1632	17	0.1632	37	0.3552
ANTHRACENE	0.0317	34	33	60.85	1.928945	174.6	5.53482	206.5	6.54605
BENZO(A)ANTHRACENE	0.0121	34	28	94.11	1.138731	297.4	3.59854	543	6.5703
BENZO(A)PYRENE	0.0086	34	10	171.1	1.47146	490	4.214	1158	9.9588
BENZO(B)FLUORANTHENE	0.0098	34	11	163.3	1.60034	383.5	3.7583	982.3	9.62654
BENZO(G,H,I)PERYLENE	0.0096	34	22	137.6	1.32096	260	2.496	610	5.856
BENZO(K)FLUORANTHENE	0.0159	34	10	111.6	1.77444	330	5.247	857.6	13.63584
CHRYSENE	0.0238	34	31	134.2	3.19396	492.7	11.72626	965.3	22.97414

Table 4-17. EPCs for Forage Fish Dry Weight Tissue at Western Bayside (continued)

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d] dry wt	All Years Forage Fish EPC (95%UCL)[e] dry wt	2005 Surface Sediment EPC (95%UCL)[d] dry wt	2005 Surface Forage Fish EPC (95%UCL)[e] dry wt	2005 Subsurface Sediment EPC (95%UCL)[d] dry wt	2005 Subsurface Forage Fish EPC (95%UCL)[e] dry wt
DIBENZO(A,H)ANTHRACENE	0.0037	34	2	55.25	0.204425	46	0.1702	177.4	0.65638
FLUORANTHENE	0.0416	34	33	168.6	7.01376	440.9	18.34144	460	19.136
FLUORENE	0.0948	34	34	32	3.0336	21.6	2.04768	24.98	2.368104
INDENO(1,2,3-CD)PYRENE	0.0075	34	14	138.4	1.038	310	2.325	760	5.7
NAPHTHALENE	0.0474	34	3	22	1.0428	12.41	0.588234	22.6	1.07124
PHENANTHRENE	0.1113	34	22	72.89	8.112657	120	13.356	290	32.277
PYRENE	0.0203	34	31	195.2	3.96256	355.6	7.21868	670.1	13.60303
Total HPAH (10)	NA	NA	NA	1352	NA	3246	NA	37360	NA
Total HPAH (6)	0.0218	34	33	808.1	17.62	1853	40.40	22000	479.6
Total LPAH (6)	0.0793	34	34	314.2	24.92	261	20.70	3297	261.45
Total PAH (12)	NA	NA	NA	1104	NA	2103	NA	25160	NA
Organotins (µg/kg)									
TRIBUTYL TIN	8.5833	34	16	3.822	32.8053726	1.115	9.5703795	1.06	9.098298

NA = not applicable

(a) Fish BAF (bioaccumulation factor) calculation (described in Section 4.5.3) calculated using dry weight concentrations of tissue.
(b) N=Number of forage fish tissue samples analyzed.
(c) D=number of detected concentrations in forage fish tissue (out of 34 total) used in calculation of the BAF. Zero means all non-detects (using half the reported detection limits). Small numbers lead to greater uncertainty (see plots in Appendix C).
(d) Sediment EPC from listed site data set.
(e) Modeled fish EPC based on model from sediment to tissue using BAF.

Table 4-18. EPCs for Forage Fish Wet Weight Tissue at Western Bayside

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years		2005 Surface		2005 Subsurface	
				Sediment EPC (95%UCL)[d]	Forage Fish EPC (95%UCL)[e]	Sediment EPC (95%UCL)[d]	Forage Fish EPC (95%UCL)[e]	Sediment EPC (95%UCL)[d]	Forage Fish EPC (95%UCL)[e]
				dry wt	wet wt	dry wt	wet wt	dry wt	wet wt
Inorganics (mg/kg)									
ANTIMONY	0.001	34	0	9.777	0.009777	0.06534	0.00006534	0.1053	0.0001053
ARSENIC	0.0298	34	1	5.772	0.1720056	4.331	0.1290638	4.644	0.1383912
CADMIUM	0.0039	34	34	0.1383	0.00053937	0.1775	0.00069225	0.4067	0.00158613
CHROMIUM	0.0026	34	13	75.47	0.196222	60.66	0.157716	62.34	0.162084
COPPER	0.0145	34	34	25.16	0.36482	24.88	0.36076	22.98	0.33321
LEAD	0.0027	34	34	17.89	0.048303	17.19	0.046413	18.92	0.051084
MERCURY	0.0444	34	34	0.2123	0.00942612	0.2219	0.00985236	0.4321	0.01918524
NICKEL	0.0011	34	4	45.84	0.050424	42.91	0.047201	45.37	0.049907
SELENIUM	0.3447	34	0	0.222	0.0765234	0.1415	0.04877505	0.1533	0.05284251
SILVER	0.0045	34	10	0.2073	0.00093285	0.1544	0.0006948	0.2584	0.0011628
ZINC	0.0645	34	30	71.15	4.589175	52.1	3.36045	55.13	3.555885
Pesticides & PCBs (µg/kg)									
Total PCB	0.6743	34	34	18.64	12.57	37.16	25.06	29.77	20.07
Total 4,4-DDx	0.9845	34	34	8.656	8.52	5.241	5.16	3.073	3.03
Total DDx	1.4383	NA	NA	5.725	8.23	5.725	8.234	3.485	5.012
DDD+DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	0.0041	34	0	0.3638	0.00149158	0.4695	0.00192495	0.2194	0.00089954
2,4'-DDE	0.2594	34	0	0.09936	0.025773984	0.1259	0.03265846	0.01796	0.004658824
2,4'-DDT	0.0691	34	0	0.1499	0.01035809	0.02988	0.002064708	0.1034	0.00714494
4,4'-DDD	0.5149	34	34	2.836	1.4602564	2.3	1.18427	1.408	0.7249792
4,4'-DDE	1.2667	34	34	2.232	2.8272744	1.344	1.7024448	1.04	1.317368
4,4'-DDT	0.1208	34	30	2.557	0.3088856	1.473	0.1779384	0.5687	0.06869896
ALDRIN	0.01	34	0	0.31	0.0031	0.05538	0.0005538	0.01458	0.0001458
ALPHA-BHC	0.0109	34	0	0.4	0.00436	0.07604	0.000828836	0.02512	0.000273808
ALPHA-CHLORDANE	0.3533	34	34	0.8539	0.30168287	0.2501	0.08836033	0.1257	0.04440981
DIELDRIN	0.2294	34	34	1.13	0.259222	0.2612	0.05991928	0.2512	0.05762528
ENDOSULFAN I	0.0119	34	0	0.9121	0.01085399	0.01779	0.000211701	0.01793	0.000213367
ENDOSULFAN II	0.0091	34	0	0.43	0.003913	0.117	0.0010647	0.1475	0.00134225
ENDOSULFAN SULFATE	0.0099	34	0	1.529	0.0151371	0.1693	0.00167607	0.1663	0.00164637
ENDRIN	0.0015	34	0	2.327	0.0034905	0.0202	0.0000303	0.01969	0.000029535
ENDRIN ALDEHYDE	0.0058	34	0	1.49	0.008642	0.2349	0.00136242	0.1853	0.00107474
GAMMA-BHC (LINDANE)	0.0129	34	0	0.49	0.006321	0.08297	0.001070313	0.01793	0.000231297
GAMMA-CHLORDANE	0.1183	34	34	0.8271	0.09784593	0.2885	0.03412955	0.1612	0.01906996
HEPTACHLOR	0.0046	34	0	0.22	0.001012	0.04279	0.000196834	0.01458	0.000067068
HEPTACHLOR EPOXIDE	0.0095	34	0	0.3	0.00285	0.05659	0.000537605	0.01796	0.00017062
PAHs (µg/kg)									
2-METHYLNAPHTHALENE	0.0044	34	14	7.8	0.03432	4.245	0.018678	6.604	0.0290576
ACENAPHTHENE	0.0265	34	34	37	0.9805	20.27	0.537155	18	0.477
ACENAPHTHYLENE	0.0014	34	19	17	0.0238	17	0.0238	37	0.0518
ANTHRACENE	0.0048	34	33	60.85	0.29208	174.6	0.83808	206.5	0.9912
BENZO(A)ANTHRACENE	0.0019	34	28	94.11	0.178809	297.4	0.56506	543	1.0317
BENZO(A)PYRENE	0.0014	34	10	171.1	0.23954	490	0.686	1158	1.6212
BENZO(B)FLUORANTHENE	0.0015	34	11	163.3	0.24495	383.5	0.57525	982.3	1.47345
BENZO(G,H,I)PERYLENE	0.0017	34	22	137.6	0.23392	260	0.442	610	1.037
BENZO(K)FLUORANTHENE	0.0026	34	10	111.6	0.29016	330	0.858	857.6	2.22976
CHRYSENE	0.0039	34	31	134.2	0.52338	492.7	1.92153	965.3	3.76467

Table 4-18. EPCs for Forage Fish Wet Weight Tissue at Western Bayside (continued)

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d]	All Years Forage Fish EPC (95%UCL)[e]	2005 Surface Sediment EPC (95%UCL)[d]	2005 Surface Forage Fish EPC (95%UCL)[e]	2005 Subsurface Sediment EPC (95%UCL)[d]	2005 Subsurface Forage Fish EPC (95%UCL)[e]
				dry wt	wet wt	dry wt	wet wt	dry wt	wet wt
DIBENZO(A,H)ANTHRACENE	0.0006	34	2	55.25	0.03315	46	0.0276	177.4	0.10644
FLUORANTHENE	0.0069	34	33	168.6	1.16334	440.9	3.04221	460	3.174
FLUORENE	0.0145	34	34	32	0.464	21.6	0.3132	24.98	0.36221
INDENO(1,2,3-CD)PYRENE	0.0013	34	14	138.4	0.17992	310	0.403	760	0.988
NAPHTHALENE	0.0073	34	3	22	0.1606	12.41	0.090593	22.6	0.16498
PHENANTHRENE	0.0188	34	22	72.89	1.370332	120	2.256	290	5.452
PYRENE	0.0034	34	31	195.2	0.66368	355.6	1.20904	670.1	2.27834
Total HPAH (10)	0.0029	NA	NA	1352	3.92	3246	9.413	37360	108.344
Total HPAH (6)	0.0047	34	33	808.1	3.80	1853	8.71	22000	103.4
Total LPAH (6)	0.0175	34	34	314.2	5.50	261	4.57	3297	57.70
Total PAH (12)	NA	NA	NA	1104	NA	2103	NA	25160	NA
Organotins (µg/kg)									
TRIBUTYL TIN	1.2568	34	16	3.822	4.8034896	1.115	1.401332	1.06	1.332208

NA = not applicable

(a) Fish BAF (bioaccumulation factor) calculation (described in Section 4.5.3) calculated using wet weight concentrations of tissue.

(b) N=Number of forage fish tissue samples analyzed.

(c) D=number of detected concentrations in forage fish tissue (out of 34 total) used in calculation of the BAF. Zero means all non-detects (using half the reported detection limits). Small numbers lead to greater uncertainty (see plots in Appendix C).

(d) Sediment EPC from listed site data set.

(e) Modeled fish EPC based on model from sediment to tissue using BAF.

Table 4-19. EPCs for Forage Fish Dry Weight Tissue at Breakwater Beach

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d] dry wt	All Years Forage Fish EPC (95%UCL)[e] dry wt
Inorganics (mg/kg)					
ANTIMONY	0.0081	34	0	0.9275	0.0075
ARSENIC	0.1275	34	1	7.894	1.0065
CADMIUM	0.0274	34	34	0.1809	0.0050
CHROMIUM	0.0154	34	13	96.51	1.4863
COPPER	0.0807	34	34	46.52	3.7542
LEAD	0.0173	34	34	27.92	0.4830
MERCURY	0.2528	34	34	0.324	0.0819
NICKEL	0.0052	34	4	65.7	0.3416
SELENIUM	1.7565	34	0	0.6806	1.1955
SILVER	0.0316	34	10	0.4718	0.0149
ZINC	0.3429	34	30	119.9	41.1137
Pesticides & PCBs (µg/kg)					
Total PCB	3.1239	34	34	24.18	75.536
Total 4,4-DDx	4.5546	34	34	1.281	5.8344
Total DDx	NA	NA	NA	4.519	NA
DDD+DDE	NA	NA	NA	NA	NA
2,4'-DDD	0.028	34	0	0.9291	0.0260
2,4'-DDE	1.4121	34	0	0.1365	0.1928
2,4'-DDT	0.454	34	0	0.2265	0.1028
4,4'-DDD	3.4486	34	34	1.857	6.4041
4,4'-DDE	8.6477	34	34	1.561	13.4991
4,4'-DDT	0.7632	34	30	2.1	1.6027
ALDRIN	0.06	34	0	0.33	0.0198
ALPHA-BHC	0.0506	34	0	1.892	0.0957
ALPHA-CHLORDANE	2.3802	34	34	0.1913	0.4553
DIELDRIN	1.475	34	34	0.6221	0.9176
ENDOSULFAN I	0.0552	34	0	1.891	0.1044
ENDOSULFAN II	0.0609	34	0	3.907	0.2379
ENDOSULFAN SULFATE	0.0458	34	0	3.666	0.1679
ENDRIN	0.0136	34	0	3.176	0.0432
ENDRIN ALDEHYDE	0.027	34	0	3.707	0.1001
GAMMA-BHC (LINDANE)	0.0751	34	0	1.77	0.1329
GAMMA-CHLORDANE	0.7961	34	34	1.109	0.8829
HEPTACHLOR	0.0471	34	0	1.633	0.0769
HEPTACHLOR EPOXIDE	0.0553	34	0	1.632	0.0902
PAHs (µg/kg)					
2-METHYLNAPHTHALENE	0.0301	34	14	21	0.6321
ACENAPHTHENE	0.1805	34	34	87.4	15.7757
ACENAPHTHYLENE	0.0096	34	19	37	0.3552
ANTHRACENE	0.0317	34	33	146.6	4.6472
BENZO(A)ANTHRACENE	0.0121	34	28	211.8	2.5628
BENZO(A)PYRENE	0.0086	34	10	230.6	1.9832
BENZO(B)FLUORANTHENE	0.0098	34	11	265.4	2.6009
BENZO(G,H,I)PERYLENE	0.0096	34	22	164.2	1.5763
BENZO(K)FLUORANTHENE	0.0159	34	10	168.1	2.6728
CHRYSENE	0.0238	34	31	238.5	5.6763

Table 4-19. EPCs for Forage Fish Dry Weight Tissue at Breakwater Beach (continued)

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years	
				Sediment EPC (95%UCL)[d]	Forage Fish EPC (95%UCL)[e]
				dry wt	dry wt
DIBENZO(A,H)ANTHRACENE	0.0037	34	2	30.5	0.1129
FLUORANTHENE	0.0416	34	33	412.5	17.1600
FLUORENE	0.0948	34	34	108	10.2384
INDENO(1,2,3-CD)PYRENE	0.0075	34	14	160.4	1.2030
NAPHTHALENE	0.0474	34	3	29.8	1.4125
PHENANTHRENE	0.1113	34	22	219.1	24.3858
PYRENE	0.0203	34	31	441.3	8.9584
Total HPAH (10)	NA	NA	NA	1649	NA
Total HPAH (6)	0.0218	34	33	1204	26.2472
Total LPAH (6)	0.0793	34	34	185.1	14.6784
Total PAH (12)	NA	NA	NA	1380	NA
Organotins (µg/kg)					
TRIBUTYL TIN	8.5833	34	16	3.066	26.3164

NA = not applicable

(a) Fish BAF (bioaccumulation factor) calculation (described in Section 4.5.3) calculated using dry weight concentrations of tissue.

(b) N=Number of forage fish tissue samples analyzed.

(c) D=number of detected concentrations in forage fish tissue (out of 34 total) used in calculation of the BAF. Zero means all non-detects (using half the reported detection limits). Small numbers lead to greater uncertainty (see plots in Appendix C).

(d) Sediment EPC from listed site data set.

(e) Modeled fish EPC based on model from sediment to tissue using BAF.

Table 4-20. EPCs for Forage Fish Wet Weight Tissue at Breakwater Beach

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d] dry wt	All Years Forage Fish EPC (95%UCL)[e] wet wt
Inorganics (mg/kg)					
ANTIMONY	0.001	34	0	0.9275	0.0009
ARSENIC	0.0298	34	1	7.894	0.2352
CADMIUM	0.0039	34	34	0.1809	0.0007
CHROMIUM	0.0026	34	13	96.51	0.2509
COPPER	0.0145	34	34	46.52	0.6745
LEAD	0.0027	34	34	27.92	0.0754
MERCURY	0.0444	34	34	0.324	0.0144
NICKEL	0.0011	34	4	65.7	0.0723
SELENIUM	0.3447	34	0	0.6806	0.2346
SILVER	0.0045	34	10	0.4718	0.0021
ZINC	0.0645	34	30	119.9	7.7336
Pesticides & PCBs (µg/kg)					
Total PCB	0.6743	34	34	24.18	16.305
Total 4,4-DDx	0.9845	34	34	1.281	1.2611
Total DDx	1.4383	NA	NA	4.519	6.4997
DDD+DDE	NA	NA	NA	NA	NA
2,4'-DDD	0.0041	34	0	0.9291	0.0038
2,4'-DDE	0.2594	34	0	0.1365	0.0354
2,4'-DDT	0.0691	34	0	0.2265	0.0157
4,4'-DDD	0.5149	34	34	1.857	0.9562
4,4'-DDE	1.2667	34	34	1.561	1.9773
4,4'-DDT	0.1208	34	30	2.1	0.2537
ALDRIN	0.01	34	0	0.33	0.0033
ALPHA-BHC	0.0109	34	0	1.892	0.0206
ALPHA-CHLORDANE	0.3533	34	34	0.1913	0.0676
DIELDRIN	0.2294	34	34	0.6221	0.1427
ENDOSULFAN I	0.0119	34	0	1.891	0.0225
ENDOSULFAN II	0.0091	34	0	3.907	0.0356
ENDOSULFAN SULFATE	0.0099	34	0	3.666	0.0363
ENDRIN	0.0015	34	0	3.176	0.0048
ENDRIN ALDEHYDE	0.0058	34	0	3.707	0.0215
GAMMA-BHC (LINDANE)	0.0129	34	0	1.77	0.0228
GAMMA-CHLORDANE	0.1183	34	34	1.109	0.1312
HEPTACHLOR	0.0046	34	0	1.633	0.0075
HEPTACHLOR EPOXIDE	0.0095	34	0	1.632	0.0155
PAHs (µg/kg)					
2-METHYLNAPHTHALENE	0.0044	34	14	21	0.0924
ACENAPHTHENE	0.0265	34	34	87.4	2.3161
ACENAPHTHYLENE	0.0014	34	19	37	0.0518
ANTHRACENE	0.0048	34	33	146.6	0.7037
BENZO(A)ANTHRACENE	0.0019	34	28	211.8	0.4024
BENZO(A)PYRENE	0.0014	34	10	230.6	0.3228
BENZO(B)FLUORANTHENE	0.0015	34	11	265.4	0.3981
BENZO(G,H,I)PERYLENE	0.0017	34	22	164.2	0.2791
BENZO(K)FLUORANTHENE	0.0026	34	10	168.1	0.4371
CHRYSENE	0.0039	34	31	238.5	0.9302

Table 4-20. EPCs for Forage Fish Wet Weight Tissue at Breakwater Beach (continued)

Analyte	Forage Fish BAF (dry wt)[a]	N[b]	D[c]	All Years Sediment EPC (95%UCL)[d] dry wt	All Years Forage Fish EPC (95%UCL)[e] wet wt
DIBENZO(A,H)ANTHRACENE	0.0006	34	2	30.5	0.0183
FLUORANTHENE	0.0069	34	33	412.5	2.8463
FLUORENE	0.0145	34	34	108	1.5660
INDENO(1,2,3-CD)PYRENE	0.0013	34	14	160.4	0.2085
NAPHTHALENE	0.0073	34	3	29.8	0.2175
PHENANTHRENE	0.0188	34	22	219.1	4.1191
PYRENE	0.0034	34	31	441.3	1.5004
Total HPAH (10)	0.0029	NA	NA	1649	4.7821
Total HPAH (6)	0.0047	34	33	1204	5.6588
Total LPAH (6)	0.0175	34	34	185.1	3.2393
Total PAH (12)	NA	NA	NA	1380	---
Organotins (µg/kg)					
TRIBUTYL TIN	1.2568	34	16	3.066	3.8533

NA = not applicable

(a) Fish BAF (bioaccumulation factor) calculation (described in Section 4.5.3) calculated using wet weight concentrations of tissue.

(b) N=Number of forage fish tissue samples analyzed.

(c) D=number of detected concentrations in forage fish tissue (out of 34 total) used in calculation of the BAF. Zero means all non-detects (using half the reported detection limits). Small numbers lead to greater uncertainty (see plots in Appendix C).

(d) Sediment EPC from listed site data set.

(e) Modeled fish EPC based on model from sediment to tissue using BAF.

Table 5-1. Chemicals of Potential Concern for the Human Health Risk Assessment

Inorganics	SVOCs	PCBs/Pesticides
Ag	Acenaphthene	2,4'-DDD
As	Acenaphthylene	2,4'-DDE
Cd	Anthracene	2,4'-DDT
Cr	Benzo(a)anthracene	4,4'-DDD
Cu	Benzo(a)pyrene	4,4'-DDE
Hg	Benzo(b)fluoranthene	4,4'-DDT
Ni	Benzo(g,h,i)perylene	*alpha*-Chlordane
Pb	Benzo(k)fluoranthene	*alpha*-BHC[1]
Sb	Chrysene	Dieldrin
Se	Dibenzo(a,h)anthracene	Endosulfan II
Zn	Fluoranthene	Endrin aldehyde[1]
	Fluorene	*gamma*-BHC
Organotins	Indeno(1,2,3-cd)pyrene	*gamma*-Chlordane
Tributyltin	2-Methylnaphthalene	Heptachlor[1]
	Naphthalene	
Radionuclides	Phenanthrene	Total PCBs
Radium 226[1]	Pyrene	
Radium 228[1]	Dibenzofuran[1]	

(1) These are chemicals of potential concern for Western Bayside only.

Table 5-2. Exposure Factors

Exposure Parameters	Symbol	Units	Average Adult/Child	RME Adult/Child	Reference
Exposure Point Concentration	EPC	mg/kg	95% UCL	95% UCL	See Section 4.5
Ingestion Rate - Fish	IR_{fish}	kg/day	0.016 / 0.0056	0.108 / 0.011	SFEI, 2002; U.S. EPA, 1997a
Ingestion Rate - Shellfish	IR_{shell}	kg/day	0.0008/NA	0.0054/NA	SFEI, 2002; U.S. EPA, 1997a
Ingestion Rate - Sediment	IR_{sed}	mg/day	50 / 100	100 / 200	U.S. EPA, 2004
Fraction Ingested from Contaminated Source	FI	unitless	0.5	1	Prof. Judgment
gamma Shielding Factor	GS	unitless	0.40	0.40	U.S. EPA, 2000a
Exposure Frequency - bivalve	EF	days/year	365	365	U.S. EPA, 1989
Exposure Frequency - Direct Contact	EF	days/year	13	26	Prof. Judgment
Exposure Time Percentage	ET	unitless	0.012	0.024	Prof. Judgment
Skin Surface Area	SA	cm^2/day	5,700 / 2,800	5,700 / 2,800	U.S. EPA, 2004
Adherence Factor	AF	mg/cm^2	0.07 / 0.2	0.07 / 0.2	U.S. EPA, 2004
Dermal Absorption Factor	DAF	unitless	chemical-specific	chemical-specific	DTSC, 1994
Exposure Duration	ED	years	9 / 6	30 / 6	U.S. EPA 1989 & 1991
Body Weight	BW	kg	70 / 15	70 / 15	U.S. EPA, 2004
Averaging Time- cancer	AT_c	days	25,550	25,550	U.S. EPA, 2004
Averaging Time - noncancer	AT_{nc}	days	3,285 / 2,190	10,950 / 2,190	U.S. EPA, 2004

Table 5-3. Summary of Toxicity Criteria

COPC	Carcinogen Classification[a]	Dermal Absorption Factor[d]	Oral Cancer Slope Factor[b] $(mg/kg\text{-}day)^{-1}$	Oral Reference Dose[b] (mg/kg-day)
Inorganics				
Ag	D	0.01	NA	5.0E-03 [2]
As	A	0.03	9.45E+00 [1]	3.0E-04 [2]
Cd	B1	0.001	3.8E-01 [1]	5.0E-04 [2]
Cr (VI)	A, K (inhalation),	0	1.9E-01 [1,c]	3.0E-03 [2]
Cu	D	0.01	NA	3.7E-02 [3]
Hg	D, C(MeHg)	0.01	NA	1.0E-04 [2,5]
Ni	NA	0.01	NA	2.0E-02 [2]
Sb	NA	0.01	NA	4.0E-04 [2]
Se	D	0.01	NA	5.0E-03 [2]
Zn	I	0.01	NA	3.0E-01 [2]
SVOCs				
Acenaphthene	NA	0.15	NA	6.0E-02 [2]
Acenaphthylene	D	0.15	NA	NA
Anthracene	D	0.15	NA	3.0E-01 [2]
Benzo(a)anthracene	B2	0.15	1.2E+00 [1]	NA
Benzo(a)pyrene	B2	0.15	1.2E+01 [1]	NA
Benzo(b)fluoranthene	B2	0.15	1.2E+00 [1]	NA
Benzo(g,h,i)perylene	D	0.15	NA	NA
Benzo(k)fluoranthene	B2	0.15	1.2E+00 [1]	NA
Chrysene	B2	0.15	1.2E-01	NA
Dibenzo(a,h)anthracene	B2	0.15	4.1E+00 [1]	NA
Fluoranthene	D	0.15	NA	4.0E-02 [2]
Fluorene	D	0.15	NA	4.0E-02 [2]
Indeno(1,2,3-cd)pyrene	B2	0.15	1.2E+00 [1]	NA
2-Methylnaphthalene	I	0.15	NA	4.0E-03 [2]
Naphthalene	C, I	0.15	1.2E-01 [1]	2.0E-02 [2]
Phenanthrene	D	0.15	NA	NA
Pyrene	D	0.15	NA	3.0E-02 [2]
Dibenzofuran	D	0.15	NA	2.0E-03 [4]
PCBs/Pesticides				
2,4'-DDD	B2	0.05	2.4E-01 [2]	NA
2,4'-DDE	B2	0.05	3.4E-01 [2]	NA
2,4'-DDT	B2	0.05	3.4E-01 [2]	5.0E-04 [2]
4,4'-DDD	B2	0.05	2.4E-01 [1,2]	NA
4,4'-DDE	B2	0.05	3.4E-01 [1,2]	NA
4,4'-DDT	B2	0.05	3.4E-01 [1,2]	5.0E-04 [2]
alpha-Chlordane	B2, L	0.05	1.3E+00 [1]	5.0E-04 [2,6]
alpha-BHC	B2	0.05	6.3E+00 [2]	NA
Dieldrin	B2	0.05	1.6E+01 [1,2]	5.0E-05 [2]
Endosulfan II	NA	0.05	NA	6.0E-03 [2]
Endrin aldehyde	NA	0.05	NA	NA
gamma-BHC	NA	0.05	1.1E+00 [1]	3.00E-04 [2]
gamma-Chlordane	B2, L	0.05	1.3E+00 [1]	5.0E-04 [2,6]
Heptachlor	B2	0.05	4.50E+00 [2]	5.00E-04 [2]
Total PCBs	B2	0.15	5.0E+00 [1]	2.00E-05 [2,7]

Table 5-3. Summary of Toxicity Criteria (continued)

COPC	Carcinogen Classification[a]	Dermal Absorption Factor[d]	Oral Cancer Slope Factor[b] $(mg/kg\text{-}day)^{-1}$	Oral Reference Dose[b] (mg/kg-day)
Organotins				
Tributyltin	NA	0.1	NA	3.0E-04 [2]

(a) Carcinogen Classification defined as: (A) human carcinogen, (B1) probable human carcinogen based on human epidemiological studies, (B2) probable human carcinogen based on animal studies, (C) probable human carcinogen with limited animal evidence, and (D) not classifiable as a human carcinogen (U.S. EPA, 1986); (K) known carcinogen, (L) likely carcinogen, (CBD) Cannot be Determined, (UL) Not Likely to be a Carcinogen (U.S. EPA, 1996); (CaH) Carcinogenic to Humans, (LH) Likely to be Carcinogenic to Humans, (S) Suggestive Evidence of Carcinogenic Potential, (I) Inadequate Information to Assess Carcinogenic Potential, and (NL) Not Likely to be Carcinogenic to Humans (U.S. EPA, 2005a).

(b) Toxicity values are referenced as follows: (1) Cal-U.S. EPA OEHHA Cancer Slope Factors (DTSC, 2002); (2) U.S. EPA IRIS (U.S. EPA, 2005b); (3) U.S. EPA HEAST (2001); (4) U.S. EPA National Center for Environmental Assessment (NCEA), as cited in U.S. EPA, 2004; (5) oral RfD for methylmercury; (6) oral RfD for technical chlordane; and (7) oral RfD for Aroclor 1254.

(c) CSF withdrawn from Cal-U.S. EPA OEHHA in 1991.

(d) Dermal absorption factors (DAF) were based on data reported by DTSC's Preliminary Endangerment Assessment Manual for Inorganic and Organic Compounds (DTSC, 1994). For those COPCs with no available information, a DAF of 0.01 was assumed for metals, and 0.1 for organics.

NA = not applicable (no U.S. EPA-acceptable toxicity values are provided for this compound).

Table 5-4. Radionuclide Slope Factors

Nuclide	Cancer Slope Factors	
	Soil Ingestion (risk/pCi)	External Exposure (risk/yr per pCi/g soil)
Radium-226 +D	7.30E-10	8.49E-06
Radium-228 +D	2.29E-09	4.53E-06

Source: U.S. EPA HEAST, 2001
U.S. EPA classifies all radionuclides as Group A carcinogens.

Table 5-5. Summary of Non-Cancer Hazards Associated with Shellfish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard		Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	0.00009	0.000007	0.010	0.010	0.00013	0.000010	0.02	0.02	0.0004	0.00003
As	0.76	0.06	82.28	82.28	0.55	0.04	84.38	84.38	1.06	0.08
Cd	0.0004	0.00003	0.04	0.04	0.0005	0.00004	0.08	0.08	0.02	0.001
Cr	0.06	0.005	6.57	6.57	0.05	0.004	7.52	7.52	0.09	0.006
Cu	0.003	0.0002	0.30	0.30	0.001	0.0001	0.21	0.21	0.006	0.0004
Hg	0.01	0.0010	1.40	1.40	0.006	0.0004	0.87	0.87	0.02	0.001
Ni	0.002	0.0001	0.20	0.20	0.008	0.0006	1.25	1.25	0.01	0.0009
Sb	0.06	0.004	6.45	6.45	0.0005	0.00004	0.08	0.08	0.005	0.0003
Se	0.002	0.0002	0.23	0.23	0.001	0.0001	0.20	0.20	0.01	0.0008
Zn	0.003	0.0002	0.34	0.34	0.001	0.00010	0.21	0.21	0.005	0.0004
Acenaphthene	0.000003	0.0000002	0.0003	0.0003	0.000002	0.0000001	0.0003	0.0003	0.0000005	0.00000004
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	0.000001	0.0000001	0.0001	0.0001	0.000002	0.0000001	0.0002	0.0002	0.0000003	0.00000002
Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
Fluoranthene	0.00008	0.000006	0.008	0.008	0.0002	0.00001	0.02	0.02	0.00002	0.000001
Fluorene	0.000003	0.0000002	0.0003	0.0003	0.000001	0.0000001	0.0002	0.0002	0.0000008	0.00000006
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	0.0006	0.00005	0.07	0.07	NA	NA	---	---	0.000003	0.0000002
Naphthalene	0.00003	0.000002	0.003	0.003	0.00001	0.000001	0.002	0.002	0.000008	0.0000006
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	0.0002	0.00001	0.02	0.02	0.0003	0.00002	0.04	0.04	0.00003	0.000002
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	NA	NA	---	---	NA	NA	---	---	---	---
2,4'-DDE	NA	NA	---	---	NA	NA	---	---	---	---
2,4'-DDT	NA	NA	---	---	NA	NA	---	---	0.00001	0.0000010
4,4'-DDD	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	0.0002	0.00001	0.02	0.02	0.0001	0.000007	0.02	0.02	0.00002	0.000001
alpha-Chlordane	0.00001	0.0000010	0.001	0.001	0.000003	0.0000002	0.0005	0.0005	0.00002	0.000001
alpha-BHC	---	---	---	---	---	---	---	---	---	---
Dieldrin	0.002	0.0001	0.20	0.20	0.0003	0.00003	0.05	0.05	0.0003	0.00002
Endosulfan II	0.000006	0.0000005	0.0007	0.0007	NA	NA	---	---	0.0000005	0.00000003
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	0.00006	0.000005	0.007	0.007	NA	NA	---	---	0.00002	0.000002
gamma-Chlordane	0.0001	0.000009	0.01	0.01	0.00003	0.000002	0.005	0.005	0.00002	0.000001
Heptachlor	0.00002	0.000002	0.002	0.002	0.000003	0.0000003	0.0005	0.0005	0.000009	0.0000007
Total PCBs	0.02	0.001	1.76	1.76	0.03	0.002	5.03	5.03	0.03	0.002
TBT	0.0006	0.00004	0.07	0.07	NA	NA	---	---	0.001	0.0001
Hazard Index	0.93	0.07			0.65	0.05			1.25	0.09

Note: Concentrations for chemicals that were not detected in shellfish tissue were derived from sediment EPCs using bioaccumulation factors, where available.

Table 5-6. Summary of Non-Cancer Hazards Associated with Shellfish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE
Ag	0.0007	0.00005	0.05	0.05	0.0004	0.00003
As	1.17	0.09	77.36	77.36	1.06	0.08
Cd	0.007	0.0005	0.49	0.49	0.02	0.001
Cr	0.22	0.02	14.23	14.23	0.09	0.006
Cu	0.006	0.0004	0.39	0.39	0.006	0.0004
Hg	0.008	0.0006	0.56	0.56	0.02	0.001
Ni	0.02	0.002	1.44	1.44	0.01	0.0009
Sb	0.002	0.0001	0.11	0.11	0.005	0.0003
Se	0.009	0.0007	0.58	0.58	0.01	0.0008
Zn	0.005	0.0004	0.33	0.33	0.005	0.0004
Acenaphthene	0.0000009	0.00000007	0.00006	0.00006	0.0000005	0.00000004
Acenaphthylene	---	---	---	---	---	---
Anthracene	0.000003	0.0000002	0.0002	0.0002	0.0000003	0.00000002
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	0.0003	0.00002	0.02	0.02	0.00002	0.000001
Fluorene	0.000002	0.0000001	0.0001	0.0001	0.0000008	0.00000006
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	NA	NA	---	---	0.000003	0.0000002
Naphthalene	0.000005	0.0000004	0.0003	0.0003	0.000008	0.0000006
Phenanthrene	---	---	---	---	---	---
Pyrene	0.0006	0.00004	0.04	0.04	0.00003	0.000002
2,4'-DDD	NA	NA	---	---	---	---
2,4'-DDE	NA	NA	---	---	---	---
2,4'-DDT	NA	NA	---	---	0.00001	0.0000010
4,4'-DDD	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---
4,4'-DDT	0.00005	0.000004	0.004	0.004	0.00002	0.000001
alpha-Chlordane	0.00002	0.000002	0.002	0.002	0.00002	0.000001
Dieldrin	0.0005	0.00004	0.04	0.04	0.0003	0.00002
Endosulfan II	NA	NA	---	---	0.0000005	0.00000003
gamma-BHC	0.00007	0.000005	0.004	0.004	0.00002	0.000002
gamma-Chlordane	NA	NA	---	---	0.00002	0.000001
Total PCBs	0.07	0.005	4.31	4.31	0.03	0.002
TBT	0.0008	0.00006	0.05	0.05	0.001	0.0001
Hazard Index	1.52	0.11			1.25	0.09

Note: Concentrations for chemicals that were not detected in shellfish tissue were derived from sediment EPCs using bioaccumulation factors, where available.

Table 5-7. Summary of Cancer Risks Associated with Shellfish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk		Risk Values		% Contribution to Total Risk			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Ag	---	---	---	---	---	---	---	---	---	---
As	9.27E-04	2.06E-05	97.23	97.23	6.64E-04	1.48E-05	93.98	93.98	1.28E-03	2.86E-05
Cd	3.35E-08	7.45E-10	0.004	0.004	4.44E-08	9.86E-10	0.006	0.006	1.41E-06	3.14E-08
Cr	1.49E-05	3.31E-07	1.56	1.56	1.19E-05	2.64E-07	1.68	1.68	2.12E-05	4.72E-07
Cu	---	---	---	---	---	---	---	---	---	---
Hg	---	---	---	---	---	---	---	---	---	---
Ni	---	---	---	---	---	---	---	---	---	---
Sb	---	---	---	---	---	---	---	---	---	---
Se	---	---	---	---	---	---	---	---	---	---
Zn	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	4.71E-07	1.05E-08	0.05	0.05	1.27E-06	2.81E-08	0.18	0.18	1.05E-07	2.33E-09
Benzo(a)pyrene	7.77E-06	1.73E-07	0.82	0.82	2.37E-05	5.26E-07	3.35	3.35	1.51E-06	3.35E-08
Benzo(b)fluoranthene	8.21E-07	1.83E-08	0.09	0.09	1.73E-06	3.84E-08	0.24	0.24	1.45E-07	3.22E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	4.77E-07	1.06E-08	0.05	0.05	1.45E-06	3.23E-08	0.21	0.21	1.52E-07	3.37E-09
Chrysene	5.31E-08	1.18E-09	0.006	0.006	1.50E-07	3.33E-09	0.02	0.02	1.71E-08	3.81E-10
Dibenzo(a,h)anthracene	2.18E-07	4.84E-09	0.02	0.02	2.69E-07	5.98E-09	0.04	0.04	3.43E-08	7.63E-10
Fluoranthene	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.69E-07	3.75E-09	0.02	0.02	4.87E-07	1.08E-08	0.07	0.07	7.21E-08	1.60E-09
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
Naphthalene	2.80E-08	6.21E-10	0.003	0.003	1.52E-08	3.39E-10	0.002	0.002	7.84E-09	1.74E-10
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	NA	NA	---	---	NA	NA	---	---	1.21E-09	2.68E-11
2,4'-DDE	NA	NA	---	---	NA	NA	---	---	9.14E-10	2.03E-11
2,4'-DDT	NA	NA	---	---	NA	NA	---	---	9.54E-10	2.12E-11
4,4'-DDD	5.07E-09	1.13E-10	0.0005	0.0005	3.40E-09	7.56E-11	0.0005	0.0005	5.12E-09	1.14E-10
4,4'-DDE	1.26E-08	2.80E-10	0.001	0.001	2.50E-09	5.55E-11	0.0004	0.0004	1.03E-08	2.29E-10
4,4'-DDT	1.34E-08	2.97E-10	0.001	0.001	7.12E-09	1.58E-10	0.001	0.001	1.17E-09	2.60E-11
alpha-Chlordane	3.84E-09	8.53E-11	0.0004	0.0004	8.73E-10	1.94E-11	0.0001	0.0001	5.03E-09	1.12E-10
alpha-BHC	5.20E-08	1.16E-09	0.005	0.005	NA	NA	---	---	NA	NA
Dieldrin	6.47E-07	1.44E-08	0.07	0.07	1.18E-07	2.62E-09	0.02	0.02	1.14E-07	2.53E-09
Endosulfan II	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	9.08E-09	2.02E-10	0.0010	0.0010	NA	NA	---	---	3.09E-09	6.87E-11
gamma-Chlordane	3.29E-08	7.32E-10	0.003	0.003	9.06E-09	2.01E-10	0.001	0.001	4.32E-09	9.59E-11
Heptachlor	2.07E-08	4.60E-10	0.002	0.002	3.30E-09	7.33E-11	0.0005	0.0005	8.84E-09	1.97E-10
Total PCBs	7.01E-07	1.56E-08	0.07	0.07	1.40E-06	3.10E-08	0.20	0.20	1.11E-06	2.47E-08
TBT	---	---	---	---	---	---	---	---	---	---
Total Cumulative Risk	9.53E-04	2.12E-05			7.07E-04	1.57E-05			1.31E-03	2.91E-05

(1) RME Risks are NOT based on age-adjusted exposure factors.

Table 5-8. Summary of Cancer Risks Associated with Shellfish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk			
	RME[(1)]	CTE	RME[(1)]	CTE	RME[(1)]	CTE
Ag	---	---	---	---	---	---
As	1.43E-03	3.17E-05	95.27	95.27	1.28E-03	2.86E-05
Cd	6.00E-07	1.33E-08	0.04	0.04	1.41E-06	3.14E-08
Cr	5.28E-05	1.17E-06	3.52	3.52	2.12E-05	4.72E-07
Cu	---	---	---	---	---	---
Hg	---	---	---	---	---	---
Ni	---	---	---	---	---	---
Sb	---	---	---	---	---	---
Se	---	---	---	---	---	---
Zn	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	2.67E-06	5.92E-08	0.18	0.18	1.05E-07	2.33E-09
Benzo(a)pyrene	8.43E-06	1.87E-07	0.56	0.56	1.51E-06	3.35E-08
Benzo(b)fluoranthene	2.24E-06	4.99E-08	0.15	0.15	1.45E-07	3.22E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	6.17E-07	1.37E-08	0.04	0.04	1.52E-07	3.37E-09
Chrysene	1.82E-07	4.05E-09	0.01	0.01	1.71E-08	3.81E-10
Dibenzo(a,h)anthracene	1.26E-07	2.81E-09	0.01	0.01	3.43E-08	7.63E-10
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	2.01E-07	4.48E-09	0.01	0.01	7.21E-08	1.60E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	5.19E-09	1.15E-10	0.0003	0.0003	7.84E-09	1.74E-10
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
2,4'-DDD	NA	NA	NA	NA	1.21E-09	2.68E-11
2,4'-DDE	NA	NA	NA	NA	9.14E-10	2.03E-11
2,4'-DDT	NA	NA	NA	NA	9.54E-10	2.12E-11
4,4'-DDD	9.43E-09	2.10E-10	0.0006	0.0006	5.12E-09	1.14E-10
4,4'-DDE	1.90E-08	4.21E-10	0.001	0.001	1.03E-08	2.29E-10
4,4'-DDT	4.00E-09	8.89E-11	0.0003	0.0003	1.17E-09	2.60E-11
alpha-Chlordane	6.63E-09	1.47E-10	0.0004	0.0004	5.03E-09	1.12E-10
Dieldrin	1.87E-07	4.16E-09	0.01	0.01	1.14E-07	2.53E-09
Endosulfan II	---	---	---	---	---	---
gamma-BHC	9.64E-09	2.14E-10	0.0006	0.0006	3.09E-09	6.87E-11
gamma-Chlordane	NA	NA	---	---	4.32E-09	9.59E-11
Total PCBs	2.80E-06	6.23E-08	0.19	0.19	1.11E-06	2.47E-08
TBT	---	---	---	---	---	---
Total Cumulative Risk	1.50E-03	3.33E-05			1.31E-03	2.91E-05

(1) RME Risks are NOT based on age-adjusted exposure factors.

Table 5-9. Summary of Non-Cancer Hazards Associated with Direct Contact with Sediments for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard		Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	4.39E-06	5.69E-07	0.05	0.05	6.47E-06	8.39E-07	0.14	0.14	6.38E-06	8.28E-07
As	2.19E-03	3.03E-04	27.06	28.50	1.61E-03	2.22E-04	35.31	36.61	3.61E-03	4.99E-04
Cd	2.83E-05	3.55E-06	0.35	0.33	3.74E-05	4.69E-06	0.82	0.77	6.82E-05	8.56E-06
Cr	2.56E-03	3.20E-04	31.60	30.06	2.05E-03	2.56E-04	44.92	42.07	2.76E-03	3.45E-04
Cu	7.20E-05	9.34E-06	0.89	0.88	6.68E-05	8.67E-06	1.47	1.43	1.18E-04	1.54E-05
Hg	2.25E-04	2.92E-05	2.77	2.74	2.18E-04	2.83E-05	4.80	4.67	4.27E-04	5.55E-05
Ni	2.43E-04	3.15E-05	2.99	2.96	2.18E-04	2.83E-05	4.78	4.65	4.20E-04	5.45E-05
Sb	2.59E-03	3.36E-04	31.93	31.54	2.29E-05	2.97E-06	0.50	0.49	2.50E-04	3.25E-05
Se	4.70E-06	6.10E-07	0.06	0.06	2.89E-06	3.75E-07	0.06	0.06	1.02E-05	1.32E-06
Zn	2.51E-05	3.26E-06	0.31	0.31	1.97E-05	2.56E-06	0.43	0.42	3.79E-05	4.92E-06
Acenaphthene	1.00E-07	1.72E-08	0.0012	0.0016	6.72E-08	1.15E-08	0.001	0.002	2.32E-08	3.98E-09
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	3.30E-08	5.67E-09	0.0004	0.0005	4.38E-08	7.52E-09	0.001	0.001	2.02E-08	3.47E-09
Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
Fluoranthene	6.86E-07	1.18E-07	0.008	0.011	1.43E-06	2.46E-07	0.03	0.04	6.92E-07	1.19E-07
Fluorene	1.30E-07	2.24E-08	0.002	0.002	5.94E-08	1.02E-08	0.001	0.002	2.74E-08	4.71E-09
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	3.17E-07	5.45E-08	0.004	0.005	1.63E-07	2.80E-08	0.004	0.005	2.61E-07	4.49E-08
Naphthalene	1.79E-07	3.07E-08	0.002	0.003	9.75E-08	1.68E-08	0.002	0.003	7.81E-08	1.34E-08
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	1.06E-06	1.82E-07	0.01	0.02	1.79E-06	3.07E-07	0.04	0.05	1.16E-06	1.99E-07
Dibenzofuran	4.33E-07	7.44E-08	0.005	0.007	4.33E-07	7.44E-08	0.010	0.012	---	---
2,4'-DDD	---	---	---	---	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---	---	---	---	---
2,4'-DDT	3.66E-08	5.34E-09	0.00045	0.00050	3.65E-08	5.32E-09	0.0008	0.0009	---	---
4,4'-DDD	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	6.24E-07	9.10E-08	0.008	0.009	3.33E-07	4.85E-08	0.01	0.01	4.03E-07	5.87E-08
alpha-Chlordane	2.08E-07	3.04E-08	0.003	0.003	4.74E-08	6.91E-09	0.001	0.001	3.22E-08	4.69E-09
alpha-BHC	---	---	---	---	---	---	---	---	---	---
Dieldrin	2.76E-06	4.02E-07	0.03	0.04	5.04E-07	7.34E-08	0.01	0.01	---	---
Endosulfan II	8.75E-09	1.28E-09	0.0001	0.0001	2.11E-09	3.07E-10	0.00005	0.00005	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	1.99E-07	2.91E-08	0.002	0.003	2.72E-08	3.97E-09	0.0006	0.0007	---	---
gamma-Chlordane	2.02E-07	2.94E-08	0.002	0.003	5.55E-08	8.10E-09	0.001	0.001	---	---
Heptachlor	5.37E-08	7.83E-09	0.0007	0.0007	8.56E-09	1.25E-09	0.0002	0.0002	---	---
Total PCBs	1.52E-04	2.60E-05	1.87	2.45	3.02E-04	5.19E-05	6.64	8.54	9.76E-05	1.68E-05
TBT	1.81E-06	2.91E-07	0.02	0.03	5.08E-07	8.16E-08	0.01	0.01	1.79E-06	2.87E-07
Hazard Index	0.0081	0.0011			0.0046	0.0006			0.0078	0.0010

Table 5-10. Summary of Non-Cancer Hazards to Children Associated with Direct Contact with Sediments for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard		Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	4.05E-05	5.20E-06	0.05	0.05	5.97E-05	7.66E-06	0.14	0.14	5.88E-05	7.56E-06
As	1.98E-02	2.67E-03	26.61	27.66	1.45E-02	1.96E-03	34.89	35.85	3.26E-02	4.39E-03
Cd	2.63E-04	3.30E-05	0.35	0.34	3.49E-04	4.37E-05	0.84	0.80	6.36E-04	7.97E-05
Cr	2.39E-02	2.99E-03	32.09	30.96	1.91E-02	2.39E-03	45.85	43.73	2.57E-02	3.22E-03
Cu	6.64E-04	8.53E-05	0.89	0.88	6.16E-04	7.92E-05	1.48	1.45	1.09E-03	1.40E-04
Hg	2.07E-03	2.66E-04	2.78	2.76	2.02E-03	2.59E-04	4.84	4.74	3.94E-03	5.06E-04
Ni	2.24E-03	2.87E-04	3.01	2.98	2.01E-03	2.58E-04	4.82	4.73	3.88E-03	4.98E-04
Sb	2.39E-02	3.06E-03	32.05	31.77	2.11E-04	2.71E-05	0.51	0.50	2.31E-03	2.97E-04
Se	4.34E-05	5.57E-06	0.06	0.06	2.67E-05	3.43E-06	0.06	0.06	9.40E-05	1.21E-05
Zn	2.32E-04	2.97E-05	0.31	0.31	1.82E-04	2.33E-05	0.44	0.43	3.49E-04	4.49E-05
Acenaphthene	8.32E-07	1.35E-07	0.0011	0.0014	5.57E-07	9.02E-08	0.001	0.002	1.92E-07	3.11E-08
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	2.74E-07	4.43E-08	0.0004	0.0005	3.63E-07	5.88E-08	0.001	0.001	1.67E-07	2.71E-08
Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
Fluoranthene	5.68E-06	9.21E-07	0.008	0.010	1.19E-05	1.92E-06	0.03	0.04	5.74E-06	9.30E-07
Fluorene	1.08E-06	1.75E-07	0.001	0.002	4.93E-07	7.98E-08	0.001	0.001	2.27E-07	3.68E-08
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	2.63E-06	4.26E-07	0.004	0.004	1.35E-06	2.19E-07	0.003	0.004	2.17E-06	3.51E-07
Naphthalene	1.48E-06	2.40E-07	0.002	0.002	8.09E-07	1.31E-07	0.002	0.002	6.48E-07	1.05E-07
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	8.78E-06	1.42E-06	0.012	0.015	1.48E-05	2.40E-06	0.04	0.04	9.59E-06	1.55E-06
Dibenzofuran	3.59E-06	5.81E-07	0.005	0.006	3.59E-06	5.81E-07	0.01	0.01	---	---
2,4'-DDD	---	---	---	---	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---	---	---	---	---
2,4'-DDT	3.25E-07	4.56E-08	0.00044	0.00047	3.24E-07	4.54E-08	0.0008	0.0008	---	---
4,4'-DDD	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	5.54E-06	7.77E-07	0.007	0.008	2.95E-06	4.14E-07	0.007	0.008	3.57E-06	5.01E-07
alpha-Chlordane	1.85E-06	2.60E-07	0.002	0.003	4.21E-07	5.90E-08	0.001	0.001	2.86E-07	4.01E-08
alpha-BHC	---	---	---	---	---	---	---	---	---	---
Dieldrin	2.45E-05	3.43E-06	0.03	0.04	4.47E-06	6.27E-07	0.01	0.01	---	---
Endosulfan II	7.76E-08	1.09E-08	0.0001	0.0001	1.87E-08	2.62E-09	0.00004	0.00005	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	1.77E-06	2.48E-07	0.002	0.003	2.41E-07	3.39E-08	0.0006	0.0006	---	---
gamma-Chlordane	1.79E-06	2.51E-07	0.002	0.003	4.93E-07	6.91E-08	0.001	0.001	---	---
Heptachlor	4.76E-07	6.69E-08	0.0006	0.0007	7.60E-08	1.07E-08	0.0002	0.0002	---	---
Total PCBs	1.26E-03	2.04E-04	1.69	2.11	2.51E-03	4.06E-04	6.02	7.44	8.09E-04	1.31E-04
TBT	1.55E-05	2.36E-06	0.02	0.02	4.34E-06	6.61E-07	0.01	0.01	1.52E-05	2.32E-06
Hazard Index	0.074	0.010			0.042	0.0055			0.072	0.009

Table 5-11. Summary of Non-Cancer Hazards Associated with Direct Contact with Sediments for Breakwater Beach

Chemical	All Years Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE
Ag	9.99E-06	1.30E-06	0.13	0.13	6.38E-06	8.28E-07
As	3.00E-03	4.15E-04	39.18	41.01	3.61E-03	4.99E-04
Cd	3.70E-05	4.64E-06	0.48	0.46	6.82E-05	8.56E-06
Cr	3.27E-03	4.09E-04	42.78	40.45	2.76E-03	3.45E-04
Cu	1.33E-04	1.73E-05	1.74	1.71	1.18E-04	1.54E-05
Hg	3.43E-04	4.45E-05	4.48	4.40	4.27E-04	5.55E-05
Ni	3.48E-04	4.51E-05	4.54	4.46	4.20E-04	5.45E-05
Sb	2.45E-04	3.18E-05	3.21	3.15	2.50E-04	3.25E-05
Se	1.44E-05	1.87E-06	0.19	0.18	1.02E-05	1.32E-06
Zn	4.23E-05	5.49E-06	0.55	0.54	3.79E-05	4.92E-06
Acenaphthene	2.37E-07	4.07E-08	0.003	0.004	2.32E-08	3.98E-09
Acenaphthylene	---	---	---	---	---	---
Anthracene	7.95E-08	1.37E-08	0.0010	0.0013	2.02E-08	3.47E-09
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	1.68E-06	2.88E-07	0.02	0.03	6.92E-07	1.19E-07
Fluorene	4.39E-07	7.55E-08	0.006	0.007	2.74E-08	4.71E-09
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	8.54E-07	1.47E-07	0.011	0.015	2.61E-07	4.49E-08
Naphthalene	2.42E-07	4.16E-08	0.003	0.004	7.81E-08	1.34E-08
Phenanthrene	---	---	---	---	---	---
Pyrene	2.39E-06	4.11E-07	0.03	0.04	1.16E-06	1.99E-07
2,4'-DDD	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---
2,4'-DDT	5.53E-08	8.06E-09	0.0007	0.0008	---	---
4,4'-DDD	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---
4,4'-DDT	5.13E-07	7.47E-08	0.007	0.007	4.03E-07	5.87E-08
alpha-Chlordane	4.67E-08	6.81E-09	0.0006	0.0007	3.22E-08	4.69E-09
Dieldrin	1.52E-06	2.21E-07	0.02	0.02	---	---
Endosulfan II	7.95E-08	1.16E-08	0.001	0.001	---	---
gamma-BHC	7.20E-07	1.05E-07	0.009	0.010	---	---
gamma-Chlordane	2.71E-07	3.95E-08	0.004	0.004	---	---
Total PCBs	1.97E-04	3.38E-05	2.57	3.34	9.76E-05	1.68E-05
TBT	1.45E-06	2.34E-07	0.02	0.02	1.79E-06	2.87E-07
Hazard Index	0.0077	0.0010			0.0078	0.0010

Table 5-12. Summary of Non-Cancer Hazards to Children Associated with Direct Contact with Sediments for Breakwater Beach

Chemical	All Years Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE
Ag	9.21E-05	1.18E-05	0.13	0.13	5.88E-05	7.56E-06
As	2.71E-02	3.65E-03	38.60	39.94	3.26E-02	4.39E-03
Cd	3.45E-04	4.32E-05	0.49	0.47	6.36E-04	7.97E-05
Cr	3.06E-02	3.82E-03	43.53	41.81	2.57E-02	3.22E-03
Cu	1.23E-03	1.58E-04	1.75	1.73	1.09E-03	1.40E-04
Hg	3.16E-03	4.06E-04	4.51	4.45	3.94E-03	5.06E-04
Ni	3.21E-03	4.12E-04	4.57	4.51	3.88E-03	4.98E-04
Sb	2.26E-03	2.91E-04	3.23	3.18	2.31E-03	2.97E-04
Se	1.33E-04	1.71E-05	0.19	0.19	9.40E-05	1.21E-05
Zn	3.90E-04	5.01E-05	0.56	0.55	3.49E-04	4.49E-05
Acenaphthene	1.96E-06	3.18E-07	0.003	0.003	1.92E-07	3.11E-08
Acenaphthylene	---	---	---	---	---	---
Anthracene	6.59E-07	1.07E-07	0.0009	0.0012	1.67E-07	2.71E-08
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	1.39E-05	2.25E-06	0.02	0.02	5.74E-06	9.30E-07
Fluorene	3.64E-06	5.90E-07	0.005	0.006	2.27E-07	3.68E-08
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	7.08E-06	1.15E-06	0.010	0.013	2.17E-06	3.51E-07
Naphthalene	2.01E-06	3.25E-07	0.003	0.004	6.48E-07	1.05E-07
Phenanthrene	---	---	---	---	---	---
Pyrene	1.98E-05	3.21E-06	0.03	0.04	9.59E-06	1.55E-06
2,4'-DDD	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---
2,4'-DDT	4.90E-07	6.88E-08	0.0007	0.0008	---	---
4,4'-DDD	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---
4,4'-DDT	4.55E-06	6.38E-07	0.006	0.007	3.57E-06	5.01E-07
alpha-Chlordane	4.14E-07	5.81E-08	0.0006	0.0006	2.86E-07	4.01E-08
Dieldrin	1.35E-05	1.89E-06	0.02	0.02	---	---
Endosulfan II	7.05E-07	9.90E-08	0.0010	0.0011	---	---
gamma-BHC	6.39E-06	8.97E-07	0.009	0.010	---	---
gamma-Chlordane	2.40E-06	3.37E-07	0.003	0.004	---	---
Total PCBs	1.63E-03	2.64E-04	2.32	2.89	8.09E-04	1.31E-04
TBT	1.24E-05	1.89E-06	0.02	0.02	1.52E-05	2.32E-06
Hazard Index	0.070	0.009			0.072	0.009

Table 5-13. Summary of Cancer Risks Associated with Direct Contact with Sediments for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk		Risk Values		% Contribution to Total Risk			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Ag	---	---	---	---	---	---	---	---	---	---
As	6.94E-06	1.11E-07	76.01	76.28	5.09E-06	8.11E-08	64.72	62.36	1.14E-05	1.82E-07
Cd	6.13E-09	8.66E-11	0.07	0.06	8.11E-09	1.15E-10	0.10	0.09	1.48E-08	2.09E-10
Cr	1.67E-06	2.35E-08	18.25	16.18	1.33E-06	1.87E-08	16.93	14.41	1.80E-06	2.53E-08
Cu	---	---	---	---	---	---	---	---	---	---
Hg	---	---	---	---	---	---	---	---	---	---
Ni	---	---	---	---	---	---	---	---	---	---
Sb	---	---	---	---	---	---	---	---	---	---
Se	---	---	---	---	---	---	---	---	---	---
Zn	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.94E-08	4.06E-10	0.21	0.28	5.20E-08	1.09E-09	0.66	0.84	1.49E-08	3.12E-10
Benzo(a)pyrene	3.52E-07	7.38E-09	3.85	5.09	1.07E-06	2.25E-08	13.62	17.28	2.71E-07	5.67E-09
Benzo(b)fluoranthene	3.36E-08	7.04E-10	0.37	0.49	7.07E-08	1.48E-09	0.90	1.14	2.26E-08	4.73E-10
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	2.30E-08	4.81E-10	0.25	0.33	6.99E-08	1.47E-09	0.89	1.13	2.24E-08	4.69E-10
Chrysene	2.76E-09	5.79E-11	0.03	0.04	7.77E-09	1.63E-10	0.10	0.13	1.61E-09	3.39E-11
Dibenzo(a,h)anthracene	3.88E-08	8.14E-10	0.42	0.56	4.80E-08	1.01E-09	0.61	0.77	1.34E-08	2.80E-10
Fluoranthene	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	2.85E-08	5.97E-10	0.31	0.41	8.22E-08	1.72E-09	1.04	1.33	2.28E-08	4.78E-10
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
Naphthalene	4.52E-10	9.49E-12	0.005	0.007	2.47E-10	5.17E-12	0.003	0.004	1.98E-10	4.14E-12
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	---	---	---	---	---	---	---	---	---	---
2,4'-DDD	1.18E-11	2.00E-13	0.0001	0.0001	1.18E-11	2.01E-13	0.0002	0.0002	8.25E-12	1.40E-13
2,4'-DDE	4.55E-12	7.73E-14	0.00005	0.00005	4.55E-12	7.73E-14	0.00006	0.00006	1.41E-11	2.40E-13
2,4'-DDT	6.86E-12	1.17E-13	0.00008	0.00008	6.84E-12	1.16E-13	0.00009	0.00009	---	---
4,4'-DDD	9.17E-11	1.56E-12	0.0010	0.0011	6.15E-11	1.04E-12	0.0008	0.0008	6.16E-11	1.05E-12
4,4'-DDE	1.02E-10	1.74E-12	0.001	0.001	5.33E-11	9.05E-13	0.0007	0.0007	4.66E-11	7.91E-13
4,4'-DDT	1.17E-10	1.99E-12	0.001	0.001	6.24E-11	1.06E-12	0.0008	0.0008	7.55E-11	1.28E-12
alpha-Chlordane	1.49E-10	2.54E-12	0.002	0.002	3.40E-11	5.78E-13	0.0004	0.0004	2.31E-11	3.92E-13
alpha-BHC	3.39E-10	5.77E-12	0.004	0.004	5.33E-11	9.05E-13	0.0007	0.0007	---	---
Dieldrin	2.43E-09	4.14E-11	0.03	0.03	4.44E-10	7.55E-12	0.006	0.006	---	---
Endosulfan II	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	7.26E-11	1.23E-12	0.0008	0.0009	9.91E-12	1.68E-13	0.0001	0.0001	---	---
gamma-Chlordane	1.45E-10	2.46E-12	0.002	0.002	3.98E-11	6.77E-13	0.0005	0.0005	---	---
Heptachlor	1.33E-10	2.27E-12	0.001	0.002	2.13E-11	3.61E-13	0.0003	0.0003	---	---
Total PCBs	1.60E-08	3.35E-10	0.17	0.23	3.18E-08	6.68E-10	0.40	0.51	1.03E-08	2.16E-10
TBT	---	---	---	---	---	---	---	---	---	---
Total Cumulative Risk	9.14E-06	1.45E-07			7.87E-06	1.30E-07			1.36E-05	2.15E-07

(1) RME Risks are based on age-adjusted exposure factors.

Table 5-14. Summary of Cancer Risks to Children Associated with Direct Contact with Sediments for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk		Risk Values		% Contribution to Total Risk			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	---	---	---	---	---	---	---	---	---	---
As	4.81E-06	6.48E-07	75.99	76.16	3.53E-06	4.75E-07	64.93	63.43	7.92E-06	1.07E-06
Cd	4.29E-09	5.38E-10	0.07	0.06	5.68E-09	7.12E-10	0.10	0.09	1.04E-08	1.30E-09
Cr	1.17E-06	1.46E-07	18.43	17.14	9.33E-07	1.17E-07	17.16	15.55	1.26E-06	1.57E-07
Cu	---	---	---	---	---	---	---	---	---	---
Hg	---	---	---	---	---	---	---	---	---	---
Ni	---	---	---	---	---	---	---	---	---	---
Sb	---	---	---	---	---	---	---	---	---	---
Se	---	---	---	---	---	---	---	---	---	---
Zn	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.31E-08	2.11E-09	0.21	0.25	3.51E-08	5.68E-09	0.64	0.76	1.00E-08	1.63E-09
Benzo(a)pyrene	2.37E-07	3.84E-08	3.75	4.52	7.23E-07	1.17E-07	13.30	15.62	1.83E-07	2.96E-08
Benzo(b)fluoranthene	2.27E-08	3.67E-09	0.36	0.43	4.77E-08	7.72E-09	0.88	1.03	1.52E-08	2.47E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	1.55E-08	2.51E-09	0.24	0.29	4.72E-08	7.64E-09	0.87	1.02	1.51E-08	2.45E-09
Chrysene	1.86E-09	3.02E-10	0.03	0.04	5.24E-09	8.49E-10	0.10	0.11	1.09E-09	1.76E-10
Dibenzo(a,h)anthracene	2.62E-08	4.24E-09	0.41	0.50	3.24E-08	5.24E-09	0.60	0.70	9.01E-09	1.46E-09
Fluoranthene	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.92E-08	3.11E-09	0.30	0.37	5.54E-08	8.98E-09	1.02	1.20	1.54E-08	2.49E-09
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
Naphthalene	3.05E-10	4.94E-11	0.005	0.006	1.66E-10	2.69E-11	0.00	0.00	1.33E-10	2.16E-11
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	---	---	---	---	---	---	---	---	---	---
2,4'-DDD	8.10E-12	1.14E-12	0.0001	0.0001	8.15E-12	1.14E-12	0.00	0.00	5.68E-12	7.98E-13
2,4'-DDE	3.14E-12	4.40E-13	0.00005	0.00005	3.14E-12	4.40E-13	0.00	0.00	9.73E-12	1.37E-12
2,4'-DDT	4.73E-12	6.64E-13	0.00007	0.00008	4.72E-12	6.62E-13	0.00	0.00	---	---
4,4'-DDD	6.32E-11	8.87E-12	0.0010	0.0010	4.24E-11	5.95E-12	0.00	0.00	4.25E-11	5.96E-12
4,4'-DDE	7.04E-11	9.88E-12	0.001	0.001	3.67E-11	5.15E-12	0.00	0.00	3.21E-11	4.51E-12
4,4'-DDT	8.07E-11	1.13E-11	0.001	0.001	4.30E-11	6.04E-12	0.00	0.00	5.21E-11	7.31E-12
alpha-Chlordane	1.03E-10	1.45E-11	0.002	0.002	2.34E-11	3.29E-12	0.00	0.00	1.59E-11	2.23E-12
alpha-BHC	2.34E-10	3.28E-11	0.004	0.004	3.67E-11	5.15E-12	0.00	0.00	---	---
Dieldrin	1.68E-09	2.35E-10	0.03	0.03	3.06E-10	4.30E-11	0.01	0.01	---	---
Endosulfan II	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	5.00E-11	7.02E-12	0.0008	0.0008	6.83E-12	9.59E-13	0.00	0.00	---	---
gamma-Chlordane	9.98E-11	1.40E-11	0.002	0.002	2.74E-11	3.85E-12	0.00	0.00	---	---
Heptachlor	9.19E-11	1.29E-11	0.001	0.002	1.47E-11	2.06E-12	0.00	0.00	---	---
Total PCBs	1.08E-08	1.75E-09	0.17	0.20	2.15E-08	3.48E-09	0.40	0.46	6.94E-09	1.12E-09
TBT	---	---	---	---	---	---	---	---	---	---
Total Cumulative Risk	6.33E-06	8.51E-07			5.44E-06	7.50E-07			9.45E-06	1.27E-06

Table 5-15. Summary of Cancer Risks Associated with Direct Contact with Sediments for Breakwater Beach

Chemical	All Years Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Ag	---	---	---	---	---	---
As	9.50E-06	1.51E-07	77.04	77.24	1.14E-05	1.82E-07
Cd	8.02E-09	1.13E-10	0.07	0.06	1.48E-08	2.09E-10
Cr	2.13E-06	3.00E-08	17.30	15.32	1.80E-06	2.53E-08
Cu	---	---	---	---	---	---
Hg	---	---	---	---	---	---
Ni	---	---	---	---	---	---
Sb	---	---	---	---	---	---
Se	---	---	---	---	---	---
Zn	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	4.36E-08	9.13E-10	0.35	0.47	1.49E-08	3.12E-10
Benzo(a)pyrene	4.74E-07	9.94E-09	3.85	5.08	2.71E-07	5.67E-09
Benzo(b)fluoranthene	5.46E-08	1.14E-09	0.44	0.58	2.26E-08	4.73E-10
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	3.46E-08	7.25E-10	0.28	0.37	2.24E-08	4.69E-10
Chrysene	4.90E-09	1.03E-10	0.04	0.05	1.61E-09	3.39E-11
Dibenzo(a,h)anthracene	2.14E-08	4.49E-10	0.17	0.23	1.34E-08	2.80E-10
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	3.30E-08	6.92E-10	0.27	0.35	2.28E-08	4.78E-10
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	6.13E-10	1.28E-11	0.005	0.007	1.98E-10	4.14E-12
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
2,4'-DDD	3.00E-11	5.10E-13	0.0002	0.0003	8.25E-12	1.40E-13
2,4'-DDE	6.25E-12	1.06E-13	0.00005	0.00005	1.41E-11	2.40E-13
2,4'-DDT	1.04E-11	1.76E-13	0.00008	0.00009	---	---
4,4'-DDD	6.00E-11	1.02E-12	0.0005	0.0005	6.16E-11	1.05E-12
4,4'-DDE	7.15E-11	1.21E-12	0.0006	0.0006	4.66E-11	7.91E-13
4,4'-DDT	9.61E-11	1.63E-12	0.0008	0.0008	7.55E-11	1.28E-12
alpha-Chlordane	3.35E-11	5.69E-13	0.0003	0.0003	2.31E-11	3.92E-13
Dieldrin	1.34E-09	2.28E-11	0.01	0.01	---	---
Endosulfan II	---	---	---	---	---	---
gamma-BHC	2.62E-10	4.45E-12	0.002	0.002	---	---
gamma-Chlordane	1.94E-10	3.30E-12	0.002	0.002	---	---
Total PCBs	2.07E-08	4.34E-10	0.17	0.22	1.03E-08	2.16E-10
TBT	---	---	---	---	---	---
Total Cumulative Risk	1.23E-05	1.96E-07			1.36E-05	2.15E-07

(1) RME Risks are based on age-adjusted exposure factors.

Table 5-16. Summary of Cancer Risks to Children Associated with Direct Contact with Sediments for Breakwater Beach

Chemical	All Years Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk			
	RME	CTE	RME	CTE	RME	CTE
Ag	---	---	---	---	---	---
As	6.58E-06	8.87E-07	77.02	77.15	7.92E-06	1.07E-06
Cd	5.61E-09	7.03E-10	0.07	0.06	1.04E-08	1.30E-09
Cr	1.49E-06	1.87E-07	17.47	16.24	1.26E-06	1.57E-07
Cu	---	---	---	---	---	---
Hg	---	---	---	---	---	---
Ni	---	---	---	---	---	---
Sb	---	---	---	---	---	---
Se	---	---	---	---	---	---
Zn	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	2.94E-08	4.76E-09	0.34	0.41	1.00E-08	1.63E-09
Benzo(a)pyrene	3.20E-07	5.18E-08	3.74	4.51	1.83E-07	2.96E-08
Benzo(b)fluoranthene	3.68E-08	5.96E-09	0.43	0.52	1.52E-08	2.47E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	2.33E-08	3.78E-09	0.27	0.33	1.51E-08	2.45E-09
Chrysene	3.31E-09	5.36E-10	0.04	0.05	1.09E-09	1.76E-10
Dibenzo(a,h)anthracene	1.45E-08	2.34E-09	0.17	0.20	9.01E-09	1.46E-09
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	2.23E-08	3.60E-09	0.26	0.31	1.54E-08	2.49E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	4.13E-10	6.70E-11	0.005	0.006	1.33E-10	2.16E-11
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
2,4'-DDD	2.07E-11	2.90E-12	0.0002	0.0003	5.68E-12	7.98E-13
2,4'-DDE	4.31E-12	6.05E-13	0.00005	0.00005	9.73E-12	1.37E-12
2,4'-DDT	7.15E-12	1.00E-12	0.00008	0.00009	---	---
4,4'-DDD	4.14E-11	5.81E-12	0.0005	0.0005	4.25E-11	5.96E-12
4,4'-DDE	4.93E-11	6.91E-12	0.0006	0.0006	3.21E-11	4.51E-12
4,4'-DDT	6.63E-11	9.30E-12	0.0008	0.0008	5.21E-11	7.31E-12
alpha-Chlordane	2.31E-11	3.24E-12	0.0003	0.0003	1.59E-11	2.23E-12
Dieldrin	9.24E-10	1.30E-10	0.01	0.01	---	---
Endosulfan II	---	---	---	---	---	---
gamma-BHC	1.81E-10	2.54E-11	0.002	0.002	---	---
gamma-Chlordane	1.34E-10	1.88E-11	0.002	0.002	---	---
Total PCBs	1.40E-08	2.26E-09	0.16	0.20	6.94E-09	1.12E-09
TBT	---	---	---	---	---	---
Total Cumulative Risk	8.55E-06	1.15E-06			9.45E-06	1.27E-06

Table 5-17. Summary of Non-Cancer Hazards Associated with Fish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard		Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	2.88E-04	2.13E-05	0.01	0.01	4.24E-04	3.14E-05	0.01	0.01	5.22E-03	3.87E-04
As	8.85E-01	6.55E-02	39.46	39.46	6.49E-01	4.81E-02	22.63	22.63	1.51E+00	1.12E-01
Cd	1.66E-03	1.23E-04	0.07	0.07	2.20E-03	1.63E-04	0.08	0.08	6.34E-02	4.70E-03
Cr	1.01E-01	7.48E-03	4.50	4.50	8.06E-02	5.97E-03	2.81	2.81	3.30E-01	2.44E-02
Cu	1.52E-02	1.13E-03	0.68	0.68	1.41E-02	1.05E-03	0.49	0.49	6.48E-02	4.80E-03
Hg	1.45E-01	1.08E-02	6.49	6.49	1.41E-01	1.05E-02	4.93	4.93	9.15E-01	6.78E-02
Ni	3.89E-03	2.88E-04	0.17	0.17	3.49E-03	2.59E-04	0.12	0.12	9.60E-03	7.11E-04
Sb	3.77E-02	2.79E-03	1.68	1.68	3.34E-04	2.47E-05	0.01	0.01	1.41E-02	1.04E-03
Se	2.36E-02	1.75E-03	1.05	1.05	1.45E-02	1.08E-03	0.51	0.51	7.53E-02	5.57E-03
Zn	2.36E-02	1.75E-03	1.05	1.05	1.85E-02	1.37E-03	0.65	0.65	9.67E-02	7.16E-03
Acenaphthene	2.52E-05	1.87E-06	0.001	0.001	1.69E-05	1.25E-06	0.0006	0.0006	7.86E-05	5.82E-06
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	1.50E-06	1.11E-07	0.0001	0.0001	1.99E-06	1.48E-07	0.00007	0.00007	3.18E-06	2.35E-07
Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
Fluoranthene	4.49E-05	3.32E-06	0.002	0.002	9.37E-05	6.94E-06	0.003	0.003	1.77E-04	1.31E-05
Fluorene	1.79E-05	1.33E-06	0.0008	0.0008	8.17E-06	6.05E-07	0.0003	0.0003	1.29E-04	9.53E-06
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	1.32E-05	9.81E-07	0.0006	0.0006	6.81E-06	5.04E-07	0.0002	0.0002	5.32E-04	3.94E-05
Naphthalene	1.24E-05	9.18E-07	0.0006	0.0006	6.75E-06	5.00E-07	0.0002	0.0002	2.29E-04	1.70E-05
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	3.41E-05	2.53E-06	0.002	0.002	5.77E-05	4.27E-06	0.002	0.002	5.72E-05	4.23E-06
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	---	---	---	---	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---	---	---	---	---
2,4'-DDT	3.20E-05	2.37E-06	0.001	0.001	3.19E-05	2.36E-06	0.001	0.001	9.32E-05	6.90E-06
4,4'-DDD	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	9.53E-04	7.06E-05	0.04	0.04	5.08E-04	3.76E-05	0.02	0.02	1.37E-02	1.02E-03
alpha-Chlordane	9.31E-04	6.90E-05	0.04	0.04	2.12E-04	1.57E-05	0.007	0.007	4.99E-03	3.69E-04
alpha-BHC	---	---	---	---	---	---	---	---	---	---
Dieldrin	8.00E-03	5.93E-04	0.36	0.36	1.46E-03	1.08E-04	0.05	0.05	6.33E-02	4.69E-03
Endosulfan II	1.01E-06	7.45E-08	0.00004	0.00004	2.42E-07	1.80E-08	0.000008	0.000008	1.09E-05	8.07E-07
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	3.25E-05	2.41E-06	0.001	0.001	4.44E-06	3.29E-07	0.0002	0.0002	1.61E-04	1.19E-05
gamma-Chlordane	3.02E-04	2.24E-05	0.01	0.01	8.30E-05	6.15E-06	0.003	0.003	1.44E-03	1.07E-04
Heptachlor	3.12E-06	2.31E-07	0.0001	0.0001	4.98E-07	3.69E-08	0.00002	0.00002	7.18E-05	5.32E-06
Total PCBs	9.70E-01	7.18E-02	43.25	43.25	1.93E+00	1.43E-01	67.43	67.43	1.34E+01	9.93E-01
TBT	2.47E-02	1.83E-03	1.10	1.10	6.92E-03	5.13E-04	0.24	0.24	1.91E-01	1.42E-02
Hazard Index	2.24	0.17			2.87	0.21			16.77	1.24

Table 5-18. Summary of Non-Cancer Hazards to Children Associated with Fish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard		Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	1.37E-04	3.48E-05	0.01	0.01	2.02E-04	5.13E-05	0.01	0.01	2.48E-03	6.32E-04
As	4.20E-01	1.07E-01	39.46	39.46	3.08E-01	7.85E-02	22.63	22.63	7.16E-01	1.82E-01
Cd	7.91E-04	2.01E-04	0.07	0.07	1.05E-03	2.66E-04	0.08	0.08	3.01E-02	7.67E-03
Cr	4.80E-02	1.22E-02	4.50	4.50	3.83E-02	9.76E-03	2.81	2.81	1.57E-01	3.99E-02
Cu	7.23E-03	1.84E-03	0.68	0.68	6.71E-03	1.71E-03	0.49	0.49	3.08E-02	7.84E-03
Hg	6.91E-02	1.76E-02	6.49	6.49	6.72E-02	1.71E-02	4.93	4.93	4.35E-01	1.11E-01
Ni	1.85E-03	4.71E-04	0.17	0.17	1.66E-03	4.22E-04	0.12	0.12	4.56E-03	1.16E-03
Sb	1.79E-02	4.56E-03	1.68	1.68	1.59E-04	4.04E-05	0.01	0.01	6.68E-03	1.70E-03
Se	1.12E-02	2.86E-03	1.05	1.05	6.91E-03	1.76E-03	0.51	0.51	3.58E-02	9.10E-03
Zn	1.12E-02	2.86E-03	1.05	1.05	8.80E-03	2.24E-03	0.65	0.65	4.60E-02	1.17E-02
Acenaphthene	1.20E-05	3.05E-06	0.001	0.001	8.02E-06	2.04E-06	0.0006	0.0006	3.74E-05	9.51E-06
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	7.14E-07	1.82E-07	0.00007	0.00007	9.48E-07	2.41E-07	0.00007	0.00007	1.51E-06	3.84E-07
Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
Fluoranthene	2.13E-05	5.43E-06	0.002	0.002	4.45E-05	1.13E-05	0.003	0.003	8.41E-05	2.14E-05
Fluorene	8.51E-06	2.17E-06	0.0008	0.0008	3.88E-06	9.89E-07	0.0003	0.0003	6.12E-05	1.56E-05
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	6.29E-06	1.60E-06	0.0006	0.0006	3.23E-06	8.23E-07	0.0002	0.0002	2.53E-04	6.44E-05
Naphthalene	5.89E-06	1.50E-06	0.0006	0.0006	3.21E-06	8.17E-07	0.0002	0.0002	1.09E-04	2.77E-05
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	1.62E-05	4.13E-06	0.002	0.002	2.74E-05	6.98E-06	0.002	0.002	2.72E-05	6.91E-06
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	---	---	---	---	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---	---	---	---	---
2,4'-DDT	1.52E-05	3.87E-06	0.001	0.001	1.52E-05	3.86E-06	0.001	0.001	4.43E-05	1.13E-05
4,4'-DDD	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	4.53E-04	1.15E-04	0.04	0.04	2.41E-04	6.15E-05	0.02	0.02	6.51E-03	1.66E-03
alpha-Chlordane	4.42E-04	1.13E-04	0.04	0.04	1.01E-04	2.56E-05	0.007	0.007	2.37E-03	6.03E-04
alpha-BHC	---	---	---	---	---	---	---	---	---	---
Dieldrin	3.80E-03	9.68E-04	0.36	0.36	6.94E-04	1.77E-04	0.05	0.05	3.01E-02	7.66E-03
Endosulfan II	4.78E-07	1.22E-07	0.00004	0.00004	1.15E-07	2.93E-08	0.000008	0.000008	5.18E-06	1.32E-06
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	1.55E-05	3.93E-06	0.001	0.001	2.11E-06	5.37E-07	0.0002	0.0002	7.64E-05	1.94E-05
gamma-Chlordane	1.44E-04	3.65E-05	0.01	0.01	3.95E-05	1.00E-05	0.003	0.003	6.86E-04	1.75E-04
Heptachlor	1.48E-06	3.78E-07	0.0001	0.0001	2.37E-07	6.02E-08	0.00002	0.00002	3.41E-05	8.69E-06
Total PCBs	4.61E-01	1.17E-01	43.25	43.25	9.19E-01	2.34E-01	67.43	67.43	6.37E+00	1.62E+00
TBT	1.17E-02	2.99E-03	1.10	1.10	3.29E-03	8.38E-04	0.24	0.24	9.09E-02	2.31E-02
Hazard Index	1.07	0.27			1.36	0.35			7.97	2.03

Table 5-19. Summary of Non-Cancer Hazards Associated with Fish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE
Ag	6.55E-04	4.85E-05	0.02	0.02	5.22E-03	3.87E-04
As	1.21E+00	8.96E-02	40.37	40.37	1.51E+00	1.12E-01
Cd	2.18E-03	1.61E-04	0.07	0.07	6.34E-02	4.70E-03
Cr	1.29E-01	9.56E-03	4.31	4.31	3.30E-01	2.44E-02
Cu	2.81E-02	2.08E-03	0.94	0.94	6.48E-02	4.80E-03
Hg	2.22E-01	1.64E-02	7.41	7.41	9.15E-01	6.78E-02
Ni	5.58E-03	4.13E-04	0.19	0.19	9.60E-03	7.11E-04
Sb	3.58E-03	2.65E-04	0.12	0.12	1.41E-02	1.04E-03
Se	7.24E-02	5.36E-03	2.42	2.42	7.53E-02	5.57E-03
Zn	3.98E-02	2.95E-03	1.33	1.33	9.67E-02	7.16E-03
Acenaphthene	5.96E-05	4.41E-06	0.002	0.002	7.86E-05	5.82E-06
Acenaphthylene	---	---	---	---	---	---
Anthracene	3.62E-06	2.68E-07	0.0001	0.0001	3.18E-06	2.35E-07
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	1.10E-04	8.13E-06	0.004	0.004	1.77E-04	1.31E-05
Fluorene	6.04E-05	4.47E-06	0.002	0.002	1.29E-04	9.53E-06
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	3.56E-05	2.64E-06	0.001	0.001	5.32E-04	3.94E-05
Naphthalene	1.68E-05	1.24E-06	0.0006	0.0006	2.29E-04	1.70E-05
Phenanthrene	---	---	---	---	---	---
Pyrene	7.72E-05	5.72E-06	0.003	0.003	5.72E-05	4.23E-06
2,4'-DDD	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---
2,4'-DDT	4.83E-05	3.58E-06	0.002	0.002	9.32E-05	6.90E-06
4,4'-DDD	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---
4,4'-DDT	7.83E-04	5.80E-05	0.03	0.03	1.37E-02	1.02E-03
alpha-Chlordane	2.09E-04	1.54E-05	0.01	0.01	4.99E-03	3.69E-04
Dieldrin	4.40E-03	3.26E-04	0.15	0.15	6.33E-02	4.69E-03
Endosulfan II	9.14E-06	6.77E-07	0.0003	0.0003	1.09E-05	8.07E-07
gamma-BHC	1.17E-04	8.70E-06	0.004	0.004	1.61E-04	1.19E-05
gamma-Chlordane	4.05E-04	3.00E-05	0.01	0.01	1.44E-03	1.07E-04
Total PCBs	1.26E+00	9.32E-02	41.97	41.97	1.34E+01	9.93E-01
TBT	1.98E-02	1.47E-03	0.66	0.66	1.91E-01	1.42E-02
Hazard Index	3.00	0.22			16.77	1.24

Table 5-20. Summary of Non-Cancer Hazards to Children Associated with Fish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Hazard	
	Hazard Quotient		% Contribution to Total Hazard			
	RME	CTE	RME	CTE	RME	CTE
Ag	3.11E-04	7.93E-05	0.02	0.02	2.48E-03	6.32E-04
As	5.75E-01	1.46E-01	40.37	40.37	7.16E-01	1.82E-01
Cd	1.03E-03	2.63E-04	0.07	0.07	3.01E-02	7.67E-03
Cr	6.13E-02	1.56E-02	4.31	4.31	1.57E-01	3.99E-02
Cu	1.34E-02	3.40E-03	0.94	0.94	3.08E-02	7.84E-03
Hg	1.05E-01	2.69E-02	7.41	7.41	4.35E-01	1.11E-01
Ni	2.65E-03	6.75E-04	0.19	0.19	4.56E-03	1.16E-03
Sb	1.70E-03	4.33E-04	0.12	0.12	6.68E-03	1.70E-03
Se	3.44E-02	8.76E-03	2.42	2.42	3.58E-02	9.10E-03
Zn	1.89E-02	4.81E-03	1.33	1.33	4.60E-02	1.17E-02
Acenaphthene	2.83E-05	7.21E-06	0.002	0.002	3.74E-05	9.51E-06
Acenaphthylene	---	---	---	---	---	---
Anthracene	1.72E-06	4.38E-07	0.0001	0.0001	1.51E-06	3.84E-07
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	5.22E-05	1.33E-05	0.004	0.004	8.41E-05	2.14E-05
Fluorene	2.87E-05	7.31E-06	0.002	0.002	6.12E-05	1.56E-05
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	1.69E-05	4.31E-06	0.001	0.001	2.53E-04	6.44E-05
Naphthalene	7.98E-06	2.03E-06	0.0006	0.0006	1.09E-04	2.77E-05
Phenanthrene	---	---	---	---	---	---
Pyrene	3.67E-05	9.34E-06	0.003	0.003	2.72E-05	6.91E-06
2,4'-DDD	---	---	---	---	---	---
2,4'-DDE	---	---	---	---	---	---
2,4'-DDT	2.30E-05	5.84E-06	0.002	0.002	4.43E-05	1.13E-05
4,4'-DDD	---	---	---	---	---	---
4,4'-DDE	---	---	---	---	---	---
4,4'-DDT	3.72E-04	9.47E-05	0.03	0.03	6.51E-03	1.66E-03
alpha-Chlordane	9.91E-05	2.52E-05	0.01	0.01	2.37E-03	6.03E-04
Dieldrin	2.09E-03	5.33E-04	0.15	0.15	3.01E-02	7.66E-03
Endosulfan II	4.35E-06	1.11E-06	0.0003	0.0003	5.18E-06	1.32E-06
gamma-BHC	5.58E-05	1.42E-05	0.00	0.00	7.64E-05	1.94E-05
gamma-Chlordane	1.92E-04	4.90E-05	0.01	0.01	6.86E-04	1.75E-04
Total PCBs	5.98E-01	1.52E-01	41.97	41.97	6.37E+00	1.62E+00
TBT	9.42E-03	2.40E-03	0.66	0.66	9.09E-02	2.31E-02
Hazard Index	1.42	0.36			7.97	2.03

Table 5-21. Summary of Cancer Risks Associated with Fish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk		Risk Values		% Contribution to Total Risk			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Ag	---	---	---	---	---	---	---	---	---	---
As	9.62E-04	2.39E-05	93.63	93.63	7.06E-04	1.75E-05	87.58	87.58	1.64E-03	4.07E-05
Cd	1.21E-07	3.01E-09	0.01	0.01	1.61E-07	3.99E-09	0.02	0.02	4.62E-06	1.15E-07
Cr	2.21E-05	5.48E-07	2.15	2.15	1.76E-05	4.38E-07	2.19	2.19	7.21E-05	1.79E-06
Cu	---	---	---	---	---	---	---	---	---	---
Hg	---	---	---	---	---	---	---	---	---	---
Ni	---	---	---	---	---	---	---	---	---	---
Sb	---	---	---	---	---	---	---	---	---	---
Se	---	---	---	---	---	---	---	---	---	---
Zn	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.27E-07	3.15E-09	0.01	0.01	3.41E-07	8.47E-09	0.04	0.04	9.91E-08	2.46E-09
Benzo(a)pyrene	1.70E-06	4.22E-08	0.17	0.17	5.18E-06	1.29E-07	0.64	0.64	4.40E-07	1.09E-08
Benzo(b)fluoranthene	1.74E-07	4.32E-09	0.02	0.02	3.66E-07	9.09E-09	0.05	0.05	2.39E-07	5.94E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	2.06E-07	5.12E-09	0.02	0.02	6.28E-07	1.56E-08	0.08	0.08	3.66E-08	9.09E-10
Chrysene	3.72E-08	9.23E-10	0.004	0.004	1.05E-07	2.60E-09	0.01	0.01	4.60E-08	1.14E-09
Dibenzo(a,h)anthracene	8.04E-08	2.00E-09	0.008	0.008	9.94E-08	2.47E-09	0.01	0.01	1.05E-07	2.60E-09
Fluoranthene	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.28E-07	3.17E-09	0.01	0.01	3.69E-07	9.16E-09	0.05	0.05	8.80E-08	2.18E-09
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.14E-08	2.83E-10	0.001	0.001	6.22E-09	1.54E-10	0.0008	0.0008	2.11E-07	5.24E-09
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	2.12E-10	5.26E-12	0.00002	0.00002	2.13E-10	5.29E-12	0.00003	0.00003	3.31E-09	8.21E-11
2,4'-DDE	5.19E-09	1.29E-10	0.0005	0.0005	5.19E-09	1.29E-10	0.0006	0.0006	1.55E-08	3.86E-10
2,4'-DDT	2.08E-09	5.17E-11	0.0002	0.0002	2.08E-09	5.16E-11	0.0003	0.0003	6.08E-09	1.51E-10
4,4'-DDD	2.07E-07	5.15E-09	0.02	0.02	1.39E-07	3.46E-09	0.02	0.02	7.49E-07	1.86E-08
4,4'-DDE	5.69E-07	1.41E-08	0.06	0.06	2.97E-07	7.37E-09	0.04	0.04	3.30E-06	8.19E-08
4,4'-DDT	6.22E-08	1.54E-09	0.006	0.006	3.31E-08	8.23E-10	0.004	0.004	8.94E-07	2.22E-08
alpha-Chlordane	2.32E-07	5.76E-09	0.02	0.02	5.28E-08	1.31E-09	0.007	0.007	1.24E-06	3.09E-08
alpha-BHC	1.63E-08	4.04E-10	0.002	0.002	2.55E-09	6.33E-11	0.0003	0.0003	1.17E-07	2.89E-09
Dieldrin	2.45E-06	6.09E-08	0.24	0.24	4.48E-07	1.11E-08	0.06	0.06	1.94E-05	4.83E-07
Endosulfan II	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	4.12E-09	1.02E-10	0.0004	0.0004	5.62E-10	1.40E-11	0.00007	0.00007	2.03E-08	5.05E-10
gamma-Chlordane	7.53E-08	1.87E-09	0.007	0.007	2.07E-08	5.14E-10	0.003	0.003	3.60E-07	8.94E-09
Heptachlor	2.70E-09	6.69E-11	0.0003	0.0003	4.30E-10	1.07E-11	0.00005	0.00005	6.20E-08	1.54E-09
Total PCBs	3.72E-05	9.23E-07	3.62	3.62	7.41E-05	1.84E-06	9.20	9.20	5.14E-04	1.28E-05
TBT	---	---	---	---	---	---	---	---	---	---
Total Cumulative Risk	1.03E-03	2.55E-05			8.06E-04	2.00E-05			2.26E-03	5.60E-05

(1) RME Risks are based on age-adjusted exposure factors.

Table 5-22. Summary of Cancer Risks to Children Associated with Fish Consumption Pathway for Western Bayside

Chemical	All Years Surface				2005 Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk		Risk Values		% Contribution to Total Risk			
	RME	CTE	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Ag	---	---	---	---	---	---	---	---	---	---
As	1.02E-04	2.60E-05	93.63	93.63	7.49E-05	1.91E-05	87.58	87.58	1.74E-04	4.43E-05
Cd	1.29E-08	3.28E-09	0.01	0.01	1.70E-08	4.34E-09	0.02	0.02	4.91E-07	1.25E-07
Cr	2.34E-06	5.97E-07	2.15	2.15	1.87E-06	4.77E-07	2.19	2.19	7.66E-06	1.95E-06
Cu	---	---	---	---	---	---	---	---	---	---
Hg	---	---	---	---	---	---	---	---	---	---
Ni	---	---	---	---	---	---	---	---	---	---
Sb	---	---	---	---	---	---	---	---	---	---
Se	---	---	---	---	---	---	---	---	---	---
Zn	---	---	---	---	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.35E-08	3.43E-09	0.01	0.01	3.62E-08	9.22E-09	0.04	0.04	1.05E-08	2.68E-09
Benzo(a)pyrene	1.81E-07	4.60E-08	0.17	0.17	5.50E-07	1.40E-07	0.64	0.64	4.67E-08	1.19E-08
Benzo(b)fluoranthene	1.85E-08	4.70E-09	0.02	0.02	3.89E-08	9.90E-09	0.05	0.05	2.54E-08	6.47E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	2.19E-08	5.57E-09	0.02	0.02	6.67E-08	1.70E-08	0.08	0.08	3.89E-09	9.89E-10
Chrysene	3.95E-09	1.00E-09	0.004	0.004	1.11E-08	2.83E-09	0.01	0.01	4.88E-09	1.24E-09
Dibenzo(a,h)anthracene	8.54E-09	2.17E-09	0.008	0.008	1.06E-08	2.69E-09	0.01	0.01	1.11E-08	2.83E-09
Fluoranthene	---	---	---	---	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.36E-08	3.45E-09	0.01	0.01	3.92E-08	9.98E-09	0.05	0.05	9.34E-09	2.38E-09
2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.21E-09	3.08E-10	0.001	0.001	6.60E-10	1.68E-10	0.0008	0.0008	2.24E-08	5.71E-09
Phenanthrene	---	---	---	---	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	NA	NA	---	---	NA	NA	---	---	NA	NA
2,4'-DDD	2.25E-11	5.73E-12	0.00002	0.00002	2.26E-11	5.76E-12	0.00003	0.00003	3.51E-10	8.94E-11
2,4'-DDE	5.51E-10	1.40E-10	0.0005	0.0005	5.51E-10	1.40E-10	0.0006	0.0006	1.65E-09	4.20E-10
2,4'-DDT	2.21E-10	5.63E-11	0.0002	0.0002	2.21E-10	5.62E-11	0.0003	0.0003	6.45E-10	1.64E-10
4,4'-DDD	2.20E-08	5.61E-09	0.02	0.02	1.48E-08	3.76E-09	0.02	0.02	7.96E-08	2.03E-08
4,4'-DDE	6.04E-08	1.54E-08	0.06	0.06	3.15E-08	8.02E-09	0.04	0.04	3.50E-07	8.92E-08
4,4'-DDT	6.60E-09	1.68E-09	0.006	0.006	3.52E-09	8.96E-10	0.004	0.004	9.49E-08	2.42E-08
alpha-Chlordane	2.47E-08	6.28E-09	0.02	0.02	5.61E-09	1.43E-09	0.007	0.007	1.32E-07	3.36E-08
alpha-BHC	1.73E-09	4.39E-10	0.002	0.002	2.71E-10	6.90E-11	0.0003	0.0003	1.24E-08	3.15E-09
Dieldrin	2.61E-07	6.64E-08	0.24	0.24	4.76E-08	1.21E-08	0.06	0.06	2.06E-06	5.25E-07
Endosulfan II	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	---	---	---	---	---	---	---	---	---	---
gamma-BHC	4.37E-10	1.11E-10	0.0004	0.0004	5.97E-11	1.52E-11	0.00007	0.00007	2.16E-09	5.50E-10
gamma-Chlordane	8.00E-09	2.04E-09	0.01	0.01	2.20E-09	5.60E-10	0.003	0.003	3.82E-08	9.73E-09
Heptachlor	2.86E-10	7.29E-11	0.0003	0.0003	4.56E-11	1.16E-11	0.00005	0.00005	6.58E-09	1.68E-09
Total PCBs	3.95E-06	1.01E-06	3.62	3.62	7.88E-06	2.00E-06	9.20	9.20	5.46E-05	1.39E-05
TBT	---	---	---	---	---	---	---	---	---	---
Total Cumulative Risk	1.09E-04	2.78E-05			8.56E-05	2.18E-05			2.40E-04	6.10E-05

Table 5-23. Summary of Cancer Risks Associated with Fish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Ag	---	---	---	---	---	---
As	1.32E-03	3.27E-05	94.12	94.12	1.64E-03	4.07E-05
Cd	1.59E-07	3.94E-09	0.01	0.01	4.62E-06	1.15E-07
Cr	2.82E-05	7.01E-07	2.02	2.02	7.21E-05	1.79E-06
Cu	---	---	---	---	---	---
Hg	---	---	---	---	---	---
Ni	---	---	---	---	---	---
Sb	---	---	---	---	---	---
Se	---	---	---	---	---	---
Zn	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	2.86E-07	7.10E-09	0.02	0.02	9.91E-08	2.46E-09
Benzo(a)pyrene	2.29E-06	5.69E-08	0.16	0.16	4.40E-07	1.09E-08
Benzo(b)fluoranthene	2.83E-07	7.02E-09	0.02	0.02	2.39E-07	5.94E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	3.10E-07	7.71E-09	0.02	0.02	3.66E-08	9.09E-10
Chrysene	6.61E-08	1.64E-09	0.005	0.005	4.60E-08	1.14E-09
Dibenzo(a,h)anthracene	4.44E-08	1.10E-09	0.003	0.003	1.05E-07	2.60E-09
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.48E-07	3.68E-09	0.01	0.01	8.80E-08	2.18E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	1.54E-08	3.84E-10	0.001	0.001	2.11E-07	5.24E-09
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
2,4'-DDD	5.41E-10	1.34E-11	0.00004	0.00004	3.31E-09	8.21E-11
2,4'-DDE	7.12E-09	1.77E-10	0.0005	0.0005	1.55E-08	3.86E-10
2,4'-DDT	3.15E-09	7.82E-11	0.0002	0.0002	6.08E-09	1.51E-10
4,4'-DDD	1.36E-07	3.37E-09	0.01	0.01	7.49E-07	1.86E-08
4,4'-DDE	3.98E-07	9.88E-09	0.03	0.03	3.30E-06	8.19E-08
4,4'-DDT	5.10E-08	1.27E-09	0.004	0.004	8.94E-07	2.22E-08
alpha-Chlordane	5.20E-08	1.29E-09	0.004	0.004	1.24E-06	3.09E-08
Dieldrin	1.35E-06	3.36E-08	0.10	0.10	1.94E-05	4.83E-07
Endosulfan II	---	---	---	---	---	---
gamma-BHC	1.49E-08	3.69E-10	0.001	0.001	2.03E-08	5.05E-10
gamma-Chlordane	1.01E-07	2.51E-09	0.01	0.01	3.60E-07	8.94E-09
Total PCBs	4.82E-05	1.20E-06	3.45	3.45	5.14E-04	1.28E-05
TBT	---	---	---	---	---	---
Total Cumulative Risk	1.40E-03	3.47E-05			2.26E-03	5.60E-05

(1) RME Risks are based on age-adjusted exposure factors.

Table 5-24. Summary of Cancer Risks to Children Associated with Fish Consumption Pathway for Breakwater Beach

Chemical	All Years Surface				Reference Risks	
	Risk Values		% Contribution to Total Risk			
	RME	CTE	RME	CTE	RME	CTE
Ag	---	---	---	---	---	---
As	1.40E-04	3.56E-05	94.12	94.12	1.74E-04	4.43E-05
Cd	1.69E-08	4.29E-09	0.01	0.01	4.91E-07	1.25E-07
Cr	3.00E-06	7.63E-07	2.02	2.02	7.66E-06	1.95E-06
Cu	---	---	---	---	---	---
Hg	---	---	---	---	---	---
Ni	---	---	---	---	---	---
Sb	---	---	---	---	---	---
Se	---	---	---	---	---	---
Zn	---	---	---	---	---	---
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	3.04E-08	7.73E-09	0.02	0.02	1.05E-08	2.68E-09
Benzo(a)pyrene	2.44E-07	6.20E-08	0.16	0.16	4.67E-08	1.19E-08
Benzo(b)fluoranthene	3.00E-08	7.64E-09	0.02	0.02	2.54E-08	6.47E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	3.30E-08	8.39E-09	0.02	0.02	3.89E-09	9.89E-10
Chrysene	7.02E-09	1.79E-09	0.005	0.005	4.88E-09	1.24E-09
Dibenzo(a,h)anthracene	4.72E-09	1.20E-09	0.003	0.003	1.11E-08	2.83E-09
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.57E-08	4.00E-09	0.01	0.01	9.34E-09	2.38E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	1.64E-09	4.18E-10	0.001	0.001	2.24E-08	5.71E-09
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
2,4'-DDD	5.75E-11	1.46E-11	0.00004	0.00004	3.51E-10	8.94E-11
2,4'-DDE	7.57E-10	1.93E-10	0.0005	0.0005	1.65E-09	4.20E-10
2,4'-DDT	3.34E-10	8.51E-11	0.0002	0.0002	6.45E-10	1.64E-10
4,4'-DDD	1.44E-08	3.67E-09	0.01	0.01	7.96E-08	2.03E-08
4,4'-DDE	4.23E-08	1.08E-08	0.03	0.03	3.50E-07	8.92E-08
4,4'-DDT	5.42E-09	1.38E-09	0.004	0.004	9.49E-08	2.42E-08
alpha-Chlordane	5.52E-09	1.41E-09	0.004	0.004	1.32E-07	3.36E-08
Dieldrin	1.44E-07	3.65E-08	0.10	0.10	2.06E-06	5.25E-07
Endosulfan II	---	---	---	---	---	---
gamma-BHC	1.58E-09	4.02E-10	0.001	0.001	2.16E-09	5.50E-10
gamma-Chlordane	1.07E-08	2.73E-09	0.007	0.007	3.82E-08	9.73E-09
Total PCBs	5.12E-06	1.30E-06	3.45	3.45	5.46E-05	1.39E-05
TBT	---	---	---	---	---	---
Total Cumulative Risk	1.48E-04	3.78E-05			2.40E-04	6.10E-05

Table 5-25. Human Health Cumulative Site Risks and Hazards for Western Bayside

Risk Scenario	Site-Specific Risk		Site-Specific Hazard		Reference Risk		Reference Hazard	
	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Adult								
Ingestion of Shellfish	9.53E-04	2.12E-05	0.93	0.07	1.31E-03	2.91E-05	1.25	0.09
Sediment(1)	9.14E-06	1.45E-07	0.0081	0.0011	1.36E-05	2.15E-07	0.0078	0.001
Ingestion of Fish(1)	1.03E-03	2.55E-05	2.24	0.17	2.26E-03	5.60E-05	16.77	1.24
Total	1.99E-03	4.68E-05	3.18	0.24	3.58E-03	8.53E-05	18.03	1.33
Child								
Sediment	6.33E-06	8.51E-07	0.074	0.01	9.45E-06	1.27E-06	0.072	0.009
Ingestion of Fish	1.09E-04	2.78E-05	1.07	0.27	2.40E-04	6.10E-05	7.97	2.03
Total	1.15E-04	2.87E-05	1.14	0.28	2.49E-04	6.23E-05	8.04	2.04

(1) Adult RME risk for sediment and ingestion of fish pathways are based on age-adjusted exposure factors.

Table 5-26. Human Health Cumulative Site Risks and Hazards for Breakwater Beach

Risk Scenario	Site-Specific Risk		Site-Specific Hazard		Reference Risk		Reference Hazard	
	RME	CTE	RME	CTE	RME	CTE	RME	CTE
Adult								
Ingestion of Shellfish	1.50E-03	3.33E-05	1.52	0.11	1.31E-03	2.91E-05	1.25	0.09
Sediment(1)	1.23E-05	1.96E-07	0.0077	0.001	1.36E-05	2.15E-07	0.0078	0.001
Ingestion of Fish(1)	1.40E-03	3.47E-05	3	0.22	2.26E-03	5.60E-05	16.77	1.24
Total	2.91E-03	6.82E-05	4.53	0.33	3.58E-03	8.53E-05	18.03	1.33
Child								
Sediment	8.55E-06	1.15E-06	0.07	0.009	9.45E-06	1.27E-06	0.072	0.009
Ingestion of Fish	1.48E-04	3.78E-05	1.42	0.36	2.40E-04	6.10E-05	7.97	2.03
Total	1.57E-04	3.90E-05	1.49	0.37	2.49E-04	6.23E-05	8.04	2.04

(1) Adult RME risks for sediment and ingestion of fish pathways are based on age-adjusted exposure factors.

Table 5-27. Summary of Radiological Risk Associated with Sediments for Western Bayside

Nuclide	Risk from Ingestion of Soil		Risk from External Exposure		Cumulative RME Risk	Cumulative CTE Risk
	RME	CTE	RME	CTE		
Radium-226 +D	7.69E-09	2.88E-10	3.30E-07	4.96E-08	3.38E-07	4.98E-08
Radium-228 +D	1.02E-07	3.81E-09	7.42E-07	1.11E-07	8.43E-07	1.15E-07
Total Cumulative Risk					1.18E-06	1.65E-07

Table 6-1. Dose Assessment Exposure Parameters for Receptors of Concern at Offshore Sediment Sites

Parameter	Surf Scoter	Least Tern (Adult)	Double-Crested Cormorant	Units
IR_{prey}	0.084	0.0083	0.091	kg/day dry wt
C_{prey}				
SLERA	Maximum *Macoma* tissue COPC concentration	Maximum *Macoma* and forage fish tissue COPC concentration	Maximum forage fish tissue COPC concentration	mg/kg dry wt
BERA	95% UCL of *Macoma* tissue COPC concentration	95% UCL of *Macoma* and forage fish tissue COPC concentration	95% UCL of forage fish tissue COPC concentration	mg/kg dry wt
IR_{sed}	0.0023	0	0.0018	kg/day dry wt
C_{sed}				
SLERA	Maximum sediment COPC concentration	NA	Maximum sediment COPC concentration	mg/kg dry wt
BERA	95% UCL or mean of sediment COPC concentration	NA	95% UCL or mean of sediment COPC concentration	mg/kg dry wt
Foraging Range	7	Determined by CA Least Tern Foraging Study	35	km^2
SUF				
SLERA	1	1	1	unitless
BERA				
Western Bayside	0.084	0.574	0.0167	unitless
Breakwater Beach	0.046	0.038	0.0092	
Body weight	1.1	0.045	1.67	kg

Table 6-2. Least Tern Foraging Distribution Patterns around Alameda Point

Study Areas	Foraging Distribution (Percentage of the Year's Total)										
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Mean
1	7	6.7	5.4	7.3	0.0	1.7	1.9	3.7	0.2	3.7	3.77
2	2.9	2.4	4.5	1.7	0.4	2.7	3.5	5.2	3.8	7.5	3.01
3	0.3	4.3	2.4	0.7	2.1	1.7	0.2	1.1	0.2	0.6	1.44
4	7.1	0.9	7.1	1.4	2.9	4.6	3.7	8.4	2.4	3.7	4.28
5	1.7	24.4	8.1	0.7	1.2	1.0	1.4	4.3	6.1	8.6	5.43
6	41.6	16.6	16.3	1.4	0.0	6.3	5.8	7.2	5.4	6.6	11.18
7	8.8	10.6	11.3	11.5	22.4	16.4	17.0	18.6	24.6	19.1	15.69
8	7.1	11.2	24	39.4	53.1	29.5	29.2	25.2	33.2	32.8	27.99
9	3.0	6.7	0.2	27.9	10.8	20.3	23.4	5.8	18.6	10.1	12.97
10	1.7	2.4	0.0	0.3	0.4	0.0	0.0	1.6	0.7	2.5	0.79
12	0.3	1.5	0.4	1.7	4.1	3.4	0.2	1.6	0.0	1.0	1.47
13/15	0.3	1.5	2.8	1.7	0.0	1.2	0.0	2.1	0.1	1.0	1.08
14	18.1	9.1	12.6	3.5	0.0	9.2	13.7	13.9	4.6	1.7	9.41
51	-	1.5	4.7	0.7	2.5	1.9	0.2	1.2	-	-	1.81
52	-	0.0	0.2	0.0	0.0	0.2	0.0	0.1	-	-	0.07

From: Bailey 1992; 1990a, b, 1988, 1986, 1985, 1984; Collins and Feeney, 1993, 1995.

Table 6-3. Direct Contact Toxicity Benchmarks

Analyte	Low Benchmark (mg/kg) DW	High Benchmark (mg/kg) DW	Reference
ANTIMONY	2.00E+00	2.50E+01	Long and Morgan, 1991
ARSENIC	8.20E+00	7.00E+01	Long and Morgan, 1995
CADMIUM	1.20E+00	9.60E+00	Long and Morgan, 1995
CHROMIUM	8.10E+01	3.70E+02	Long and Morgan, 1995
COPPER	3.40E+01	2.70E+02	Long and Morgan, 1995
LEAD	4.67E+01	2.18E+02	Long and Morgan, 1995
MERCURY	1.50E-01	7.10E-01	Long and Morgan, 1995
NICKEL	2.09E+01	5.16E+01	Long and Morgan, 1995
SELENIUM	NA	NA	NA
SILVER	1.00E+00	3.70E+00	Long and Morgan, 1995
ZINC	1.50E+02	4.10E+02	Long and Morgan, 1995
ALDRIN	NA	NA	NA
ALPHA-BHC	NA	NA	NA
ALPHA-CHLORDANE	5.00E-04	6.00E-03	Long and Morgan, 1991
DIELDRIN	2.00E-05	8.00E-03	Long and Morgan, 1991
ENDOSULFAN I	NA	NA	NA
ENDOSULFAN II	NA	NA	NA
ENDOSULFAN SULFATE	NA	NA	NA
ENDRIN	NA	NA	NA
ENDRIN ALDEHYDE	NA	NA	NA
GAMMA-BHC	3.20E-04	9.90E-04	MacDonald et al., 1994
GAMMA-CHLORDANE	NA	NA	NA
HEPTACHLOR	NA	NA	NA
HEPTACHLOR EPOXIDE	NA	NA	NA
DIBENZOFURAN	NA	NA	NA
TRIBUTYL TIN	2.51E-05	NA	U.S. EPA 1996
Total PCB	2.27E-02	1.80E-01	Long and Morgan, 1995
Total DDx	1.58E-03	4.61E-02	Long and Morgan, 1991
Total HPAH[(a)]	1.70E+00	9.60E+00	Long and Morgan, 1995
Total LPAH[(b)]	5.52E-01	3.16E+00	Long and Morgan, 1995
Total PAH	4.02E-03	4.48E-02	Long and Morgan, 1995

(a) The total HPAH benchmark is based on the sum of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Pyrene).
(b) The total LPAH benchmark is based on the sum of 7 low-molecular-weight PAHs (2-Methylnaphthalene, Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene).

Table 6-4. Toxicity Reference Values

Analyte	NOAEL Study Receptor Body Weight (kg)	Literature-Based Low Avian TRV (mg/kg/day)	Reference	LOAEL Study Receptor Body Weight (kg)	Literature-Based High Avian TRV (mg/kg/day)	Reference
ANTIMONY	NA	NA	NA	NA	NA	NA
ARSENIC	1.17E+00	5.50E+00	DON, 1998	1.17E+00	2.20E+01	DON, 1998
CADMIUM	7.99E-01	8.00E-02	DON, 1998	8.40E-02	1.04E+01	DON, 1998
CHROMIUM	1.25E+00	2.66E+00	U.S. EPA, 2005	1.25E+00	1.56E+01	U.S. EPA, 2005
COPPER	6.39E-01	2.30E+00	DON, 1998	4.09E-01	5.23E+01	DON, 1998
LEAD	8.40E-02	1.40E-02	DON, 1998	8.00E-01	8.75E+00	DON, 1998
MERCURY	1.00E+00	3.90E-02	DON, 1998	1.00E+00	1.80E-01	DON, 1998
NICKEL	6.14E-01	1.38E+00	DON, 1998	5.80E-01	5.63E+01	DON, 1998
SELENIUM	1.11E+00	2.30E-01	DON, 1998	1.11E+00	9.30E-01	DON, 1998
SILVER	NA	NA	NA	NA	NA	NA
ZINC	9.55E-01	1.72E+01	DON, 1998	9.55E-01	1.72E+02	DON, 1998
ALDRIN	NA	NA	NA	NA	NA	NA
ALPHA-BHC	NA	NA	NA	NA	NA	NA
ALPHA-CHLORDANE	6.40E-02	2.14E+00	Sample, 1996	6.40E-02	1.07E+01	Sample, 1996
DIELDRIN	4.66E-01	7.09E-02	U.S. EPA, 2005	4.66E-01	8.01E-01	U.S. EPA, 2005
ENDOSULFAN I	NA	NA	NA	NA	NA	NA
ENDOSULFAN II	NA	NA	NA	NA	NA	NA
ENDOSULFAN SULFATE	NA	NA	NA	NA	NA	NA
ENDRIN	1.81E-01	1.00E-02	Sample, 1996	1.81E-01	1.00E-01	Sample, 1996
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA
GAMMA-BHC	1.00E+00	2.00E+00	Sample, 1996	1.00E+00	2.00E+01	Sample, 1996
GAMMA-CHLORDANE	6.40E-02	2.14E+00	Sample, 1996	6.40E-02	1.07E+01	Sample, 1996
HEPTACHLOR	NA	NA	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA
DIBENZOFURAN	NA	NA	NA	NA	NA	NA
TRIBUTYL TIN	9.65E-02	7.30E-01	DON, 1998	9.65E-02	4.59E+01	DON, 1998
Total PCB	8.00E-01	9.00E-02	DON, 1998	1.72E+00	1.27E+00	DON, 1998
Total DDx	3.50E+00	9.00E-03	DON, 1998	1.00E+00	6.00E-01	DON, 1998
Total PAH	NA	NA	NA	NA	NA	NA

NA = No TRV

Table 6-5. Benthic Invertebrate Direct Contact Toxicity Evaluation for Western Bayside

Constituent	Surface All Years (max)	2005 Surface (max)	2005 Subsurface (max)	Benthic NOAEL	Benthic LOAEL	Surface All Years NOAEL HQ	Surface All Years LOAEL HQ	2005 Surface NOAEL HQ	2005 Surface LOAEL HQ	2005 Subsurface NOAEL HQ	2005 SubSurface LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	unitless	unitless	unitless	unitless	unitless	unitless
Antimony	3.93E+01	3.10E-01	2.90E-01	2.00E+00	2.50E+01	1.97E+01	1.57E+00	1.55E-01	1.24E-02	1.45E-01	1.16E-02
Arsenic	1.23E+01	5.85E+00	6.62E+00	8.20E+00	7.00E+01	1.50E+00	1.76E-01	7.13E-01	8.36E-02	8.07E-01	9.46E-02
Cadmium	3.06E-01	3.06E-01	9.52E-01	1.20E+00	9.60E+00	2.55E-01	3.19E-02	2.55E-01	3.19E-02	7.93E-01	9.92E-02
Chromium	1.58E+02	8.98E+01	8.88E+01	8.10E+01	3.70E+02	1.94E+00	4.26E-01	1.11E+00	2.43E-01	1.10E+00	2.40E-01
Copper	4.77E+01	3.23E+01	3.61E+01	3.40E+01	2.70E+02	1.40E+00	1.77E-01	9.50E-01	1.20E-01	1.06E+00	1.34E-01
Lead	3.08E+01	3.08E+01	3.22E+01	4.67E+01	2.18E+02	6.60E-01	1.41E-01	6.60E-01	1.41E-01	6.90E-01	1.48E-01
Mercury	8.47E-01	3.66E-01	4.99E-01	1.50E-02	7.10E-02	5.64E+01	1.19E+01	2.44E+01	5.15E+00	3.33E+01	7.03E+00
Nickel	9.00E+01	5.58E+01	6.56E+01	2.09E+01	5.16E+01	4.31E+00	1.74E+00	2.67E+00	1.08E+00	3.14E+00	1.27E+00
Selenium	4.60E-01	1.85E-01	2.10E-01	NA	NA	NA	NA	NA	NA	NA	NA
Silver	1.17E+00	1.17E+00	4.41E-01	1.00E+00	3.70E+00	1.17E+00	3.16E-01	1.17E+00	3.16E-01	4.41E-01	1.19E-01
Zinc	1.30E+02	8.04E+01	8.55E+01	1.50E+02	4.10E+02	8.67E-01	3.17E-01	5.36E-01	1.96E-01	5.70E-01	2.09E-01
Total PCB	1.45E-01	4.53E-02	7.12E-02	2.27E+01	1.80E+02	6.37E-03	8.03E-04	1.99E-03	2.51E-04	3.14E-03	3.95E-04
Total 4,4-DDx	2.09E-02	1.28E-02	5.60E-03	1.58E+00	4.61E+01	1.33E-02	4.54E-04	8.09E-03	2.77E-04	3.54E-03	1.21E-04
Aldrin	6.75E-03	3.10E-04	2.00E-05	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	5.23E-02	4.00E-04	3.50E-05	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	3.15E-03	1.42E-03	4.80E-04	5.00E-01	6.00E+00	6.30E-03	5.25E-04	2.84E-03	2.37E-04	9.60E-04	8.00E-05
Dieldrin	1.19E-02	1.13E-03	7.20E-04	2.00E-02	8.00E+00	5.96E-01	1.49E-03	5.65E-02	1.41E-04	3.60E-02	9.00E-05
Endosulfan II	6.00E-03	4.30E-04	4.00E-04	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	6.34E-02	1.49E-03	8.20E-04	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC	4.30E-02	4.90E-04	2.50E-05	3.20E-01	9.90E-01	1.34E-01	4.35E-02	1.53E-03	4.95E-04	7.81E-05	2.53E-05
gamma-Chlordane	3.15E-03	1.66E-03	6.30E-04	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	6.75E-03	2.20E-04	2.00E-05	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	3.15E-03	3.00E-04	2.50E-05	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH (12)	2.96E+00	2.96E+00	2.57E+02	4.02E+00	4.48E+01	7.36E-01	6.60E-02	7.36E-01	6.60E-02	6.40E+01	5.74E+00
Total LPAH (6)	7.50E-01	4.32E-01	3.51E+01	5.52E+02	3.16E+03	1.36E-03	2.37E-04	7.83E-04	1.37E-04	6.35E-02	1.11E-02
Total HPAH (6)	2.53E+00	2.53E+00	2.22E+02	1.70E+03	9.60E+03	1.49E-03	2.63E-04	1.49E-03	2.63E-04	1.31E-01	2.31E-02
Tributyl Tin	1.70E-02	3.00E-03	4.00E-03	2.51E-02	NA	6.77E-01	NA	1.20E-01	NA	1.59E-01	NA

Highlighted Cell = HQ > 1.
NA = No TRV

Table 6-6. Benthic Invertebrate Direct Contact Toxicity Evaluation for Breakwater Beach

Analyte	Surface All Years (max)		Benthic ERL	Benthic ERM		Surface All Years NOAEL HQ	Surface All Years LOAEL HQ
	(mg/kg)		(mg/kg)	(mg/kg)		unitless	unitless
Antimony	1.80E+00		2.00E+00	2.50E+01		9.00E-01	7.20E-02
Arsenic	1.19E+01		8.20E+00	7.00E+01		1.45E+00	1.70E-01
Cadmium	4.56E-01		1.20E+00	9.60E+00		3.80E-01	4.75E-02
Chromium	1.53E+02		8.10E+01	3.70E+02		1.89E+00	4.14E-01
Copper	7.72E+01		3.40E+01	2.70E+02		2.27E+00	2.86E-01
Lead	4.89E+01		4.67E+01	2.18E+02		1.05E+00	2.24E-01
Mercury	6.60E-01		1.50E-02	7.10E-02		4.40E+01	9.30E+00
Nickel	9.90E+01		2.09E+01	5.16E+01		4.74E+00	1.92E+00
Selenium	1.15E+00		NA	NA		NA	NA
Silver	2.50E+00		1.00E+00	3.70E+00		2.50E+00	6.76E-01
Zinc	2.10E+02		1.50E+02	4.10E+02		1.40E+00	5.12E-01
Total PCB	1.04E+00		2.27E+01	1.80E+02		4.58E-02	5.78E-03
Total 4,4-DDx	3.90E-02		1.58E+00	4.61E+01		2.47E-02	8.46E-04
Aldrin	6.50E-03		NA	NA		NA	NA
alpha-Chlordane	6.50E-03		5.00E-01	6.00E+00		1.30E-02	1.08E-03
Dieldrin	1.30E-02		2.00E-02	8.00E+00		6.50E-01	1.63E-03
Endosulfan II	1.30E-02		NA	NA		NA	NA
gamma-BHC	6.50E-03		3.20E-01	9.90E-01		2.03E-02	6.57E-03
gamma-Chlordane	6.50E-03		NA	NA		NA	NA
Total PAH (12)	6.94E+00		4.02E+00	4.48E+01		1.73E+00	1.55E-01
Total LPAH (6)	1.56E+00		5.52E+02	3.16E+03		2.83E-03	4.94E-04
Total HPAH (6)	5.55E+00		1.70E+03	9.60E+03		3.26E-03	5.78E-04
Tributyl Tin	9.00E-03		2.51E-02	NA		3.59E-01	NA

Highlighted Cell = HQ > 1.
NA = No TRV

Table 6-7. Summary of Screening-Level Hazard Quotients for Western Bayside

Constituent	All Years Dataset			2005 Surface Dataset			2005 Subsurface Dataset		
	Surf Scoter	Least Tern	Double-Crested Cormorant	Surf Scoter	Least Tern	Double-Crested Cormorant	Surf Scoter	Least Tern	Double-Crested Cormorant
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.40	0.13	0.02	0.40	0.06	0.01	0.40	0.07	0.01
Cadmium	0.04	0.05	0.01	0.04	0.05	0.01	0.13	0.14	0.03
Chromium	1.06	0.43	0.11	0.60	0.25	0.06	0.60	0.24	0.06
Copper	0.51	0.70	0.09	0.49	0.47	0.06	0.50	0.53	0.07
Lead	16.60	10.54	2.44	16.60	10.54	2.44	16.73	11.02	2.56
Mercury	0.51	2.49	0.29	0.49	1.08	0.13	0.49	1.47	0.17
Nickel	0.47	0.14	0.07	0.43	0.09	0.05	0.44	0.10	0.05
Selenium	0.62	1.63	0.18	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	0.53	1.17	0.13	0.52	0.72	0.08	0.50	0.58	0.09
Total PCB	0.00	2.18	0.24	0.00	0.68	0.07	0.00	1.07	0.12
Total 4,4-DDx	0.34	6.18	0.67	0.34	3.78	0.41	0.33	1.65	0.18
Aldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dieldrin	0.00	0.10	0.01	0.00	0.01	0.00	0.00	0.01	0.00
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC	0.00	0.00	0.00	0.00	0.00	0.00	***NA***	***NA***	***NA***
gamma-Chlordane	**NA**	0.00	0.00	**NA**	0.00	0.00	**NA**	0.00	0.00
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH (12)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total LPAH (6)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total HPAH (6)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tributyl Tin	0.00	0.06	0.01	0.00	0.01	0.00	0.00	0.01	0.00

Highlighted Cell = HQ > 1.
NA = No TRV
NA = No BAF
NA = Non-detect

Table 6-8. Screening-Level Hazard Quotients for NOAEL TRVs for Breakwater Beach

Constituent	Surf Scoter	Least Tern	Double-Crested Cormorant
Antimony	NA	NA	NA
Arsenic	0.38	0.13	0.02
Cadmium	0.26	0.07	0.01
Chromium	2.22	0.42	0.10
Copper	0.61	1.13	0.15
Lead	11.46	16.73	3.88
Mercury	0.42	1.94	0.23
Nickel	2.37	0.15	0.08
Selenium	1.40	4.08	0.45
Silver	NA	NA	NA
Zinc	0.53	1.89	0.22
Total PCB	0.22	15.67	1.71
Total 4,4-DDx	0.19	11.51	1.25
Aldrin	NA	NA	NA
alpha-Chlordane	0.00	0.00	0.00
Dieldrin	0.00	0.11	0.01
Endosulfan II	NA	NA	NA
gamma-BHC	0.00	0.00	0.00
gamma-Chlordane	**NA**	0.00	0.00
Total PAH (12)	NA	NA	NA
Total LPAH (6)	NA	NA	NA
Total HPAH (6)	NA	NA	NA
Tributyl Tin	0.00	0.03	0.00

Highlighted Cell = HQ > 1.
NA = No TRV
NA = No BAF

Table 6-9. Evaluation Criteria for Toxicity Tests

Test	Endpoint	SWRCB Threshold[a] or MSD[b]
10-d Amphipod *Eohaustorius estuarius*	Survival	69.5% of control survival
28-d Polychaete *Neanthes arenaceodentata*	Survival and growth	Survival: 64% of control Growth: 44% of control response
48-hr *Mytilus edulis*	Normal Development	80% of control response (MSD)
~72-hr *Strongylocentrotus purpuratus*	Normal Development	60% of control response

(a) Source: SWRCB (1998a and 1998b)
(b) MSD = minimum significant difference. The percentage of control response at which a significant difference from control was observed 90% of the time for the test protocol.

Table 6-10. Bulk Pore Water Quality Values and Sediment Characteristics at Western Bayside

Station	Salinity (‰)	Percent Fine Grained (<0.075 mm)
B02	24.6-25.3	94.4
B03	25.3-26.1	97.0
B04	24.6-25.0	62.6
B05	24.6	87.4
B06	24.6-25.3	77.1
B07	26.9	68.0
B08	25.7-26.9	35.5
B09	26.9	26.0
B11	25.1-25.3	64.2
B12	22.7-23.0	41.5
B13	26.9	83.1
B14	27.6	91.0

Table 6-11. Survival of *E. estuarius* in Western Bayside and Native Control Sediment

Station	Survival (%)					
	Rep A	Rep B	Rep C	Rep D	Rep E	Mean[(a)]
Native	100	90	100	100	100	98
B02	65	70	75	80	70	72
B03	60	65	80	50	65	**64**
B04	95	80	100	75	95	89
B05	65	75	55	75	85	71
B06	95	75	65	80	85	80
B07	65	75	60	75	60	**67**
B08	95	80	85	100	100	92
B09	100	90	100	100	100	98
B11	85	80	60	60	55	**68**
B12	85	75	95	80	80	83
B13	80	65	60	80	70	71
B14	70	65	75	85	60	71

(a) Bold values indicate that survival was lower than the tolerance limit of 69.5% of control, or 68.1% for Western Bayside.

Table 6-12. Growth Data for *N. arenaceodentata* Test at Western Bayside Locations

Station	Growth (mg dry weight/worm)[(a)]					
	Rep A	Rep B	Rep C	Rep D	Rep E	Mean
Native	22.9	19.48	20.3	24.62	17.6	21.83
B02	19.02	17.66	**7.0**	17.9	16.72	***15.4***[(b)]
B03	13.32	13.8	9.9	10.66	14.06	11.92
B04	22.58	18.5	18.92	24.66	20	21.17
B05	15.52	18.96	18.54	19.34	18.66	18.09
B06	18	17.48	16.74	21.08	21.38	18.33
B07	18.76	19.84	17.66	22.82	13.88	19.77
B08	25.68	19.56	24.62	21.66	22.72	22.88
B09	17.88	14.94	13.88	12.32	19.6	14.76
B11	9.64	11.24	17.72	17.18	13.6	13.95
B12	10.16	10.2	12.2	8.32	9	10.22[(b)]
B13	15.12	13.9	14.18	14.28	15.74	14.37
B14	13.34	15.78	14.22	10.14	**5.34**	***13.37***

(a) Bold values have replicate growth >50% lower than the maximum growth within that treatment. Bold and italicized values are means that contain bolded values.
(b) Statistically significant differences from control reported ($p<0.05$).

Table 6-13. Survival and Normal Development of Mussel Larvae Exposed to Sediment from Western Bayside

Station	%-Survival	%-Normal	Treatment %-Normal as Percent of Control	Combined %-Normal and %-Survival[a]	Combined %-Normal and %-Survival as Percent of Control
Control	105.9	99.4	100	99.4	100
B02	98.0	97.4	98.0	95.5	96.1
B03	117.6	94.3	94.9	94.3	94.9
B04	91	99.6	100	90.6	91.1
B05	81.2	98.7	99.3	80.1	80.6
B06	92.9	98.4	99.0	91.4	92.0
B07	102.1	98.5	99.1	98.5	99.1
B08	88.4	98.9	99.5	87.4	87.9
B09	113.3	94.5	95.1	94.5	95.1
B11	111.3	96.7	97.3	96.7	97.3
B12	107.7	98.6	99.2	98.6	99.2
B13	89.1[b]	90.6	91.1	80.7	81.2
B14	83.0[b]	91.4	92.0	90.8	91.3

(a) Percent normal/percent survival, assuming 100% survival for stations with >100% survival reported.
(b) Statistically significant differences reported at 0.05.

Table 6-14. Summary of Biological Effects in Toxicity Tests at Western Bayside Offshore Sites

Station	Biological Toxicity Measurements					
	Amphipod Survival (%)	Polychaete Survival (%)	Polychaete Growth (mg)	Mussel Larvae Elutriate Survival (%)	Mussel Larvae Elutriate Normal (%)	Sediment ERM-Q[a]
SWRCB Tolerance Limit or MSD[b]	68.1	64	9.6	NA	80	0.3 (UTL)
Control	98	100	21.83	105.9	100	NA
B02	72[c]	100	***15.4***[c]	98.0	98.0	0.29
B03	**64**	100	11.92	117.6	94.9	0.30
B04	89	100	21.17	91	100	0.37
B05	71[c]	100	18.09	81.2	99.3	0.25
B06	80	100	18.33	92.9	99.0	0.22
B07	**67**[c]	100	19.77	102.1	99.1	0.26
B08	92	100	22.88	88.4	99.5	0.17
B09	98	100	14.76	113.3	95.1	0.09
B11	**68**[c]	100	13.95	111.3	97.3	0.25
B12	83	100	10.22[c]	107.7	99.2	0.17
B13	71	100	14.37	89.1[c]	91.1	0.25
B14	71	100	***13.37***	83.0[c]	92.0	0.29

(a) Effects Range Medium – Quotients (ERM-Qs) calculated using 19 COPCs
(b) SWRCB tolerance limit is calculated using concurrently tested control response. The MSD is the percentage of control response at which a significant difference from control was observed 90% of the time.
(c) Statistically significant difference from control reported (p<0.05).
NA = Not applicable.
Bold Type indicates station response is below SWRCB tolerance limit or MSD.

Table 6-15. Bulk Pore Water Quality Values at Time of Laboratory Setup – Breakwater Beach Bioassay Tests

Station	pH	Salinity (‰)	Total Ammonia (mg/L)	Sulfide (mg/L)
		1998 Data		
RL01	7.54	23.7	3.12	0.017
RL02	7.37	26.6	1.95	0.024
RL03	7.16	28.1	3.56	0.054
BW01	7.24	26.4	2.39	0.017
BW02	7.25	26.4	2.90	0.011
BW03	7.25	26.2	1.06	0.017
BW04	7.25	26.4	1.85	0.012
BW05	7.26	26.5	0.99	0.014
		1996 Data		
BB001	8.1	34	4.9	NM
BB004	8.1	33	6.5	NM
BB007	7.8	34	1.1	NM
BB010	no data	no data	2.0	NM
BB013	8.1	33	0.52	NM
BB016	8.0	32	0.89	NM
BB019	8.0	33	0.64	NM
Control	8.1	32	ND	NM

ND = not detected.
NM = not measured.

Table 6-16. Survival and Reburial of Amphipods After Exposure to Breakwater Beach, Control, and Reference Stations, 1998

Station	Survival/Reburial (%)[a]					
	Rep A	Rep B	Rep C	Rep D	Rep E	Mean
Native	100/ 100	90/ 100	100/ 100	100/ 100	100/ 100	98/ 100
RL01	0/ NA	0/ NA	5/ 100	10/ 100	25/ 100	**8**[b]/ 100
RL02	70/ 100	75/ 93.3	*0/* NA	*40/* 100	*20/* 100	**41**[b]/ 98.3
RL03	90/ 100	80/ 100	75/ 100	90/ 100	80/ 93.8	83[b]/ 98.8
BW01	85/ 100	70/ 100	65/ 100	75/ 100	80/ 100	75[b]/ 100
BW02	70/ 100	*40/* 100	65/ 92.3	80/ 93.8	50/ 100	**61**[b]/ 97.2
BW03	60/ 100	50/ 100	50/ 100	80/ 100	60/ 100	**60**[b]/ 100
BW04	50/ 100	55/ 100	50/ 100	45/ 88.9	35/ 100	**47**[b]/ 97.8
BW05	60/ 100	70/ 100	70/ 100	70/ 100	60/ 100	**66**[b]/ 100

(a) Italicized values indicate replicate result is >30% lower than the replicate with maximum survival. Bold values are mean survival results less than the reference envelope of 69.5% of control survival, or 68% survival.
(b) Statistically significant difference reported ($p<0.05$).
NA = not applicable.

Table 6-17. Survival and Growth of Polychaetes after Exposure to Sediment from the Breakwater Beach, Native Control, and Reference Areas

Station	Survival (%)/Growth (mg/individual)[a]										
	Rep A	Rep B	Rep C	Rep D	Rep E	Rep F	Rep G	Rep H	Rep I	Rep J	Mean
Native	100/ 6.18	100/ 9.78	100/ 8.19	100/ 9.26	100/ 5.84	100/ 6.74	100/ 6.45	100/ 11.01	100/ 9.17	100/ *4.96*	100/ 7.76
RL01	100/ *5.45*	100/ *8.01*	100/ 18.23	100/ 14.80	100/ 12.96	100/ 19.19	100/ *5.85*	100/ *5.11*	*0/* NA	100/ 16.14	90/ 11.75
RL02	100/ *1.36*	100/ *2.00*	100/ 3.34	100/ *1.02*	*0/* NA	100/ *2.10*	100/ 5.03	100/ 3.58	100/ *2.31*	100/ *2.25*	90/ 2.55[b]
RL03	100/ *2.14*	100/ 10.08	100/ 6.80	100/ 6.56	*0/* NA	100/ 5.30	100/ 7.02	100/ *2.59*	100/ 6.87	100/ 5.20	90/ 5.84[b]
BW01	100/ 5.56	100/ 5.07	100/ 5.38	100/ 3.90	100/ *1.91*	100/ 6.72	100/ 7.15	100/ *2.59*	100/ 6.20	100/ 7.41	100/ 5.19[b]
BW02	100/ 4.69	*0/* NA	100/ *2.97*	100/ 7.21	100/ 5.14	*0/* NA	*0/* NA	100/ 7.22	100/ 4.81	100/ *3.07*	70/ 5.02[b]
BW03	100/ 7.67	100/ *5.54*	100/ 5.95	100/ 8.53	100/ 6.94	100/ 10.17	100/ 9.91	100/ 6.11	100/ 11.30	100/ 6.07	100/ 7.82
BW04	100/ 8.93	100/ 5.25	100/ 5.43	100/ 7.24	100/ 6.91	100/ 5.07	100/ *3.64*	100/ *3.57*	100/ 6.39	100/ 8.39	100/ 6.08[b]
BW05	100/ 6.62	100/ 5.85	100/ 6.24	100/ 6.92	100/ *4.35*	100/ 5.64	100/ 9.15	100/ 9.41	100/ *4.43*	100/ 8.71	100/ 6.73

(a) Italic values indicate replicate result is >50% lower than the replicate with maximum survival.
(b) Statistically significant difference reported ($p<0.05$).
NA = not applicable.

Table 6-18. NOEC, LOEC, and EC_{50} Estimates for Fertilization of Echinoderm Eggs after Exposure of Sperm to Pore Water Dilutions

Station	NOEC (% porewater)	LOEC (% porewater)	EC_{50} (% porewater)	Ammonia (mg/L)
BB001	12.5	25	77.9	4.9
BB004	12.5	25	29.6	6.5
BB007	6.25	12.5	86.2	1.1
BB010	12.5	25	58.5	2.0
BB013	25	50	>100	0.52
BB016	6.25	12.5	>100	0.89
BB019	<6.25	6.25	>100	0.64

Table 6-19. Percent Surviving Larvae That Developed Normally After Exposure to SWI

Station	Surviving Larvae that Developed Normally (%)					
	Rep A	Rep B	Rep C	Rep D	Rep E	Mean
Native	85	82	95	93	90	89
RL01	85	90	89	94	(a)	89.5
RL02	91	89	87	75	86	85.6
RL03	89	88	95	93	91	91.2
BW01	90	96	86	85	88	89
BW02	80	85	90	91	93	87.8
BW03	88	84	93	90	81	87.2
BW04	95	(b)	86	93	93	91.8
BW05	94	92	89	96	91	92.4

(a) No replicate was collected during original sample collection.
(b) Vial was cracked and fluid lost. Replicate excluded from analysis.

Table 6-20. Summary of Biological Effects in Toxicity Tests at Breakwater Beach Area Sites

Station	Amphipod Test		Polychaete Survival Test		Polychaete Growth Test		Sea Urchin Development Test		Sea Urchin Fertilization Test		Number Significantly Different from Control	Biological Effects (number below SWRCB tolerance limit)
	Survival (%)[a]	CV (%)	Survival (%)	CV (%)	Growth (mg/individual)[a]	CV (%)	Normal (%)	CV (%)	EC_{50} (% porewater)	CV (%)		
SWRCB Tolerance Limit	68.1 (69.5% of control)	--	64.0 (64% of control)	--	3.41 (44% of control)	--	53.4 (60% of control)	--	NA		NA	NA
Native	98	4.6	100	0	7.76	25.7	89	6.1	NM	NA	0/5	NA
RL01	**8**[b]	129.6	90	35.1	11.75	48.5	89.5	4.1	NM	NA	1/5	1
RL02	**41**[b]	78.3	90	35.1	**2.55**[b]	48.4	85.6	7.3	NM	NA	2/5	2
RL03	83[b]	8.1	90	35.1	5.84[b]	41.4	91.2	3.1	NM	NA	2/5	0
BW01	75[b]	10.5	100	0	5.19[b]	36.0	89	4.9	NM	NA	2/5	0
BW02	**61**[b]	26.2	70[b]	69.0	5.02[b]	34.3	87.8	6.0	NM	NA	3/5	1
BW03	**60**[b]	20.4	100	0	7.82	26.3	87.2	5.5	NM	NA	1/5	1
BW04	**47**[b]	16.1	100	0	6.08[b]	30.0	91.8	4.3	NM	NA	2/5	1
BW05	**66**[b]	8.3	100	0	6.73	27.2	92.4	2.9	NM	NA	1/5	1
BB001	NM	NA	NM	NA	NM	NA	NM	NA	77.9	NA	1/1	NA
BB004	NM	NA	NM	NA	NM	NA	NM	NA	29.6	NA	1/1	NA
BB007	NM	NA	NM	NA	NM	NA	NM	NA	86.2	NA	1/1	NA
BB010	NM	NA	NM	NA	NM	NA	NM	NA	58.5	NA	1/1	NA
BB013	NM	NA	NM	NA	NM	NA	NM	NA	>100	NA	0/1	NA
BB016	NM	NA	NM	NA	NM	NA	NM	NA	>100	NA	0/1	NA
BB019	NM	NA	NM	NA	NM	NA	NM	NA	>100	NA	0/1	NA
Control	NM	NA	NM	NA	NM	NA	NM	NA	>100	NA	0/1	NA

(a) Bold values indicate survival or growth below SWRCB tolerance limit.
(b) Statistically significant differences reported ($p<0.05$).
NA = not applicable.
NM = not measured.

Table 6-21. Fish Ecotoxicity Reference Values

Constituent	NOAEL ERV (mg/kg) DW	LOAEL ERV (mg/kg) DW
Antimony	2.50E+01	4.50E+01
Arsenic	7.55E+00	8.60E+00
Cadmium	2.50E-01	5.00E-01
Chromium	1.15E+01	4.45E+01
Copper	1.96E+01	2.24E+01
Lead	1.27E+01	2.01E+01
Mercury	4.00E+00	6.55E+00
Nickel	NA	NA
Selenium	5.40E+00	6.58E+00
Silver	3.00E-01	NA
Zinc	9.65E+01	1.13E+02
Total PCB	3.80E+00	7.65E+00
Total 4,4-DDx	9.60E+00	1.00E+01
Aldrin	NA	NA
alpha-BHC	3.07E+01	4.77E+01
alpha-Chlordane	3.00E+00	8.30E+01
Dieldrin	6.00E-01	1.00E+00
Endosulfan II	1.55E-02	1.55E-01
Endrin Aldehyde	6.00E-01	1.05E+00
gamma-BHC	3.07E+01	4.77E+01
gamma-Chlordane	3.00E+00	8.30E+01
Heptachlor	3.00E+00	8.30E+01
Heptachlor Epoxide	3.00E+00	8.30E+01
Total PAH (12)	1.05E+00	1.05E+01
Total LPAH (6)	1.15E+01	1.15E+02
Total HPAH (6)	1.05E+00	1.05E+01
Tributyl Tin	1.30E+00	1.35E+00

Table 6-22. Forage Fish Direct Toxicity for Western Bayside

	Sediment			Fish											
Constituent	Surface All Years (95 UCL)	2005 Surface (95 UCL)	2005 Subsurface (95 UCL)	FF BAFs	Fish Conc Surface All Year	Fish Conc 2005 Surface	Fish Conc 2005 Subsurface	NOAEL ERV	LOAEL ERV	Surface All NOAEL HQ	Surface All LOAEL HQ	2005 Surface NOAEL HQ	2005 Surface LOAEL HQ	2005 Subsurface NOAEL HQ	2005 Subsurface LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	unitless	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	unitless	unitless	unitless	unitless	unitless	unitless
Antimony	9.78E+00	8.65E-02	9.11E-02	8.10E-03	7.92E-02	7.01E-04	7.38E-04	2.50E+01	4.50E+01	3.17E-03	1.76E-03	2.80E-05	1.56E-05	2.95E-05	1.64E-05
Arsenic	5.77E+00	4.23E+00	4.33E+00	1.28E-01	7.36E-01	5.40E-01	5.52E-01	7.55E+00	8.60E+00	9.75E-02	8.56E-02	7.15E-02	6.28E-02	7.31E-02	6.42E-02
Cadmium	1.38E-01	1.83E-01	3.25E-01	2.74E-02	3.79E-03	5.01E-03	8.91E-03	2.50E-01	5.00E-01	1.52E-02	7.58E-03	2.01E-02	1.00E-02	3.56E-02	1.78E-02
Chromium	7.55E+01	6.03E+01	5.74E+01	1.54E-02	1.16E+00	9.29E-01	8.83E-01	1.15E+01	4.45E+01	1.01E-01	2.61E-02	8.07E-02	2.09E-02	7.68E-02	1.99E-02
Copper	2.52E+01	2.34E+01	2.21E+01	8.07E-02	2.03E+00	1.89E+00	1.78E+00	1.96E+01	2.24E+01	1.04E-01	9.06E-02	9.62E-02	8.42E-02	9.09E-02	7.95E-02
Lead	1.79E+01	1.91E+01	1.95E+01	1.73E-02	3.09E-01	3.30E-01	3.37E-01	1.27E+01	2.01E+01	2.44E-02	1.54E-02	2.60E-02	1.64E-02	2.65E-02	1.68E-02
Mercury	2.12E-01	2.06E-01	2.82E-01	2.53E-01	5.37E-02	5.22E-02	7.13E-02	4.00E+00	6.55E+00	1.34E-02	8.19E-03	1.30E-02	7.97E-03	1.78E-02	1.09E-02
Nickel	4.58E+01	4.12E+01	4.22E+01	5.20E-03	2.38E-01	2.14E-01	2.19E-01	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	2.22E-01	1.37E-01	1.44E-01	1.76E+00	3.90E-01	2.40E-01	2.52E-01	5.40E+00	6.58E+00	7.22E-02	5.93E-02	4.44E-02	3.65E-02	4.67E-02	3.83E-02
Silver	2.07E-01	3.06E-01	2.00E-01	3.16E-02	6.55E-03	9.66E-03	6.31E-03	3.00E-01	NA	2.18E-02	NA	3.22E-02	NA	2.10E-02	NA
Zinc	7.12E+01	5.58E+01	5.29E+01	3.43E-01	2.44E+01	1.91E+01	1.81E+01	9.65E+01	1.13E+02	2.53E-01	2.16E-01	1.98E-01	1.69E-01	1.88E-01	1.60E-01
Total PCB	1.86E-02	3.72E-02	2.98E-02	3.12E+00	5.82E-02	1.16E-01	9.30E-02	3.80E+00	7.65E+00	1.53E-02	7.61E-03	3.05E-02	1.52E-02	2.45E-02	1.22E-02
Total 4,4-DDx	8.66E-03	5.24E-03	3.07E-03	4.55E+00	3.94E-02	2.39E-02	1.40E-02	9.60E+00	1.00E+01	4.11E-03	3.94E-03	2.49E-03	2.39E-03	1.46E-03	1.40E-03
Aldrin	3.10E-04	4.47E-05	1.38E-05	6.00E-02	1.86E-05	2.68E-06	8.30E-07	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	4.00E-04	6.28E-05	2.38E-05	5.06E-02	2.02E-05	3.18E-06	1.20E-06	3.07E+01	4.77E+01	6.59E-07	4.24E-07	1.03E-07	6.66E-08	3.92E-08	2.52E-08
alpha-Chlordane	8.54E-04	1.94E-04	1.36E-04	2.38E+00	2.03E-03	4.62E-04	3.23E-04	3.00E+00	8.30E+01	6.77E-04	2.45E-05	1.54E-04	5.57E-06	1.08E-04	3.90E-06
Dieldrin	1.13E-03	2.06E-04	2.34E-04	1.48E+00	1.67E-03	3.04E-04	3.46E-04	6.00E-01	1.00E+00	2.78E-03	1.67E-03	5.07E-04	3.04E-04	5.76E-04	3.46E-04
Endosulfan II	4.30E-04	1.04E-04	1.25E-04	6.09E-02	2.62E-05	6.31E-06	7.62E-06	1.55E-02	1.55E-01	1.69E-03	1.69E-04	4.07E-04	4.07E-05	4.92E-04	4.92E-05
Endrin Aldehyde	1.49E-03	1.85E-04	1.43E-04	2.70E-02	4.02E-05	4.98E-06	3.86E-06	6.00E-01	1.05E+00	6.71E-05	3.83E-05	8.31E-06	4.75E-06	6.43E-06	3.67E-06
gamma-BHC	4.90E-04	6.69E-05	1.73E-05	7.51E-02	3.68E-05	5.02E-06	1.30E-06	3.07E+01	4.77E+01	1.20E-06	7.71E-07	1.64E-07	1.05E-07	4.23E-08	2.72E-08
gamma-Chlordane	8.27E-04	2.28E-04	1.45E-04	7.96E-01	6.58E-04	1.81E-04	1.15E-04	3.00E+00	8.30E+01	2.19E-04	7.93E-06	6.04E-05	2.18E-06	3.85E-05	1.39E-06
Heptachlor	2.20E-04	3.51E-05	1.38E-05	4.71E-02	1.04E-05	1.65E-06	6.52E-07	3.00E+00	8.30E+01	3.45E-06	1.25E-07	5.51E-07	1.99E-08	2.17E-07	7.85E-09
Heptachlor Epoxide	3.00E-04	4.69E-05	1.73E-05	5.53E-02	1.66E-05	2.59E-06	9.57E-07	3.00E+00	8.30E+01	5.53E-06	2.00E-07	8.64E-07	3.12E-08	3.19E-07	1.15E-08
Total PAH (12)	1.10E+00	2.10E+00	2.52E+01	2.18E-02	2.41E-02	4.58E-02	5.48E-01	1.05E+00	1.05E+01	2.29E-02	2.29E-03	4.37E-02	4.37E-03	5.22E-01	5.22E-02
Total LPAH (6)	3.14E-01	2.61E-01	3.30E+00	7.93E-02	2.49E-02	2.07E-02	2.61E-01	1.15E+01	1.15E+02	2.17E-03	2.17E-04	1.80E-03	1.80E-04	2.27E-02	2.27E-03
Total HPAH (6)	8.08E-01	1.85E+00	2.20E+01	2.18E-02	1.76E-02	4.04E-02	4.80E-01	1.05E+00	1.05E+01	1.68E-02	1.68E-03	3.85E-02	3.85E-03	4.57E-01	4.57E-02
Tributyl Tin	3.86E-03	1.07E-03	1.17E-03	8.58E+00	3.31E-02	9.22E-03	1.00E-02	1.30E+00	1.35E+00	2.55E-02	2.45E-02	7.09E-03	6.83E-03	7.70E-03	7.41E-03

Table 6-23. Foraging Fish Direct Toxicity for Breakwater Beach

Constituent	Sediment Surface All Years (95 UCL)	Fish FF BAFs	Fish Conc Surface All Year	NOAEL ERV	LOAEL ERV	Surface All NOAEL HQ	Surface All LOAEL HQ
	(mg/kg DW)	unitless	(mg/kg DW)	(mg/kg)	(mg/kg)	unitless	unitless
Antimony	9.28E-01	8.10E-03	7.51E-03	2.50E+01	4.50E+01	3.01E-04	1.67E-04
Arsenic	7.89E+00	1.28E-01	1.01E+00	7.55E+00	8.60E+00	1.33E-01	1.17E-01
Cadmium	1.81E-01	2.74E-02	4.96E-03	2.50E-01	5.00E-01	1.98E-02	9.91E-03
Chromium	9.65E+01	1.54E-02	1.49E+00	1.15E+01	4.45E+01	1.29E-01	3.34E-02
Copper	4.65E+01	8.07E-02	3.75E+00	1.96E+01	2.24E+01	1.92E-01	1.68E-01
Lead	2.79E+01	1.73E-02	4.83E-01	1.27E+01	2.01E+01	3.80E-02	2.40E-02
Mercury	3.24E-01	2.53E-01	8.19E-02	4.00E+00	6.55E+00	2.05E-02	1.25E-02
Nickel	6.57E+01	5.20E-03	3.42E-01	NA	NA	NA	NA
Selenium	6.81E-01	1.76E+00	1.20E+00	5.40E+00	6.58E+00	2.21E-01	1.82E-01
Silver	4.72E-01	3.16E-02	1.49E-02	3.00E-01	NA	4.97E-02	NA
Zinc	1.20E+02	3.43E-01	4.11E+01	9.65E+01	1.13E+02	4.26E-01	3.64E-01
Total PCB	2.43E-01	3.12E+00	7.59E-01	3.80E+00	7.65E+00	2.00E-01	9.92E-02
Total 4,4-DDx	6.20E-03	4.55E+00	2.82E-02	9.60E+00	1.00E+01	2.94E-03	2.82E-03
Aldrin	3.30E-04	6.00E-02	1.98E-05	NA	NA	NA	NA
alpha-Chlordane	1.91E-04	2.38E+00	4.55E-04	3.00E+00	8.30E+01	1.52E-04	5.49E-06
Dieldrin	6.22E-04	1.48E+00	9.18E-04	6.00E-01	1.00E+00	1.53E-03	9.18E-04
Endosulfan II	3.91E-03	6.09E-02	2.38E-04	1.55E-02	1.55E-01	1.54E-02	1.54E-03
gamma-BHC	1.77E-03	7.51E-02	1.33E-04	3.07E+01	4.77E+01	4.33E-06	2.79E-06
gamma-Chlordane	1.11E-03	7.96E-01	8.83E-04	3.00E+00	8.30E+01	2.94E-04	1.06E-05
Total PAH (12)	2.60E+00	2.18E-02	5.67E-02	1.05E+00	1.05E+01	5.40E-02	5.40E-03
Total LPAH (6)	8.65E-01	7.93E-02	6.86E-02	1.15E+01	1.15E+02	5.96E-03	5.96E-04
Total HPAH (6)	1.62E+00	2.18E-02	3.53E-02	1.05E+00	1.05E+01	3.36E-02	3.36E-03
Tributyl Tin	3.07E-03	8.58E+00	2.63E-02	1.30E+00	1.35E+00	2.02E-02	1.95E-02

Table 6-24. Summary of Surf Scoter BERA HQs for a Range of SUFs for Western Bayside (All Years Data Set)

Constituent	SUF= 1			SUF= 0.5			SUF= 0.25			SUF= 0.084			SUF= 0		
	Ref= 0			Ref= 0.5			Ref= 0.75			Ref= 0.916			Ref= 1		
	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	**1.75E-01**	**NA**	**NA**	**9.40E-02**	**NA**	**NA**	**5.36E-02**	**NA**	**NA**	**2.67E-02**	**NA**	**NA**	**1.31E-02**	**NA**	**NA**
Arsenic	2.08E+00	3.82E-01	9.56E-02	1.89E+00	3.48E-01	8.69E-02	1.79E+00	3.30E-01	8.26E-02	1.73E+00	3.19E-01	7.97E-02	1.70E+00	3.13E-01	7.82E-02
Cadmium	1.64E-03	1.92E-02	9.41E-05	2.80E-02	3.28E-01	1.61E-03	4.11E-02	4.82E-01	2.36E-03	4.99E-02	5.85E-01	2.87E-03	5.43E-02	6.37E-01	3.12E-03
Chromium	**1.32E+00**	**5.07E-01**	**8.65E-02**	**1.46E+00**	**5.64E-01**	**9.62E-02**	**1.54E+00**	**5.92E-01**	**1.01E-01**	**1.58E+00**	**6.11E-01**	**1.04E-01**	**1.61E+00**	**6.21E-01**	**1.06E-01**
Copper	9.94E-01	3.88E-01	1.56E-02	1.10E+00	4.29E-01	1.73E-02	1.15E+00	4.50E-01	1.81E-02	1.19E+00	4.63E-01	1.86E-02	1.21E+00	4.70E-01	1.89E-02
Lead	3.62E-01	1.54E+01	3.88E-02	3.10E-01	1.32E+01	3.32E-02	2.84E-01	1.21E+01	3.05E-02	2.67E-01	1.14E+01	2.86E-02	2.58E-01	1.10E+01	2.77E-02
Mercury	1.25E-02	3.14E-01	6.80E-02	1.15E-02	2.88E-01	6.24E-02	1.09E-02	2.75E-01	5.97E-02	1.06E-02	2.67E-01	5.78E-02	1.04E-02	2.63E-01	5.69E-02
Nickel	4.36E-01	2.81E-01	6.82E-03	1.02E+00	6.58E-01	1.60E-02	1.31E+00	8.47E-01	2.05E-02	1.51E+00	9.72E-01	2.36E-02	1.61E+00	1.04E+00	2.51E-02
Selenium	6.83E-02	2.97E-01	7.36E-02	2.03E-01	8.83E-01	2.18E-01	2.70E-01	1.18E+00	2.91E-01	3.14E-01	1.37E+00	3.39E-01	3.37E-01	1.47E+00	3.63E-01
Silver	3.27E-03	NA	NA	8.35E-03	NA	NA	1.09E-02	NA	NA	1.26E-02	NA	NA	1.34E-02	NA	NA
Zinc	8.74E+00	4.94E-01	4.94E-02	8.56E+00	4.84E-01	4.84E-02	8.47E+00	4.79E-01	4.79E-02	8.41E+00	4.76E-01	4.76E-02	8.38E+00	4.74E-01	4.74E-02
Total PCB	**4.11E-05**	**4.28E-04**	**3.54E-05**	**1.75E-03**	**1.83E-02**	**1.51E-03**	**2.61E-03**	**2.72E-02**	**2.25E-03**	**3.18E-03**	**3.31E-02**	**2.73E-03**	**3.46E-03**	**3.61E-02**	**2.98E-03**
Total 4,4-DDx	**2.25E-03**	**3.15E-01**	**3.68E-03**	**1.50E-03**	**2.10E-01**	**2.45E-03**	**1.12E-03**	**1.57E-01**	**1.83E-03**	**8.71E-04**	**1.22E-01**	**1.42E-03**	**7.45E-04**	**1.04E-01**	**1.22E-03**
Aldrin	**8.80E-07**	**NA**	**NA**	**1.78E-05**	**NA**	**NA**	**2.62E-05**	**NA**	**NA**	**3.19E-05**	**NA**	**NA**	**3.47E-05**	**NA**	**NA**
***alpha*-BHC**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**1.83E-06**	**4.84E-07**	**9.68E-06**	**3.11E-05**	**8.22E-06**	**1.64E-04**	**4.57E-05**	**1.21E-05**	**2.42E-04**	**5.54E-05**	**1.46E-05**	**2.93E-04**	**6.03E-05**	**1.59E-05**	**3.19E-04**
Dieldrin	**2.95E-06**	**3.51E-05**	**3.10E-06**	**5.36E-05**	**6.37E-04**	**5.64E-05**	**7.89E-05**	**9.38E-04**	**8.30E-05**	**9.58E-05**	**1.14E-03**	**1.01E-04**	**1.04E-04**	**1.24E-03**	**1.10E-04**
Endosulfan II	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.25E-06**	**6.12E-07**	**6.12E-08**	**2.07E-05**	**1.02E-05**	**1.02E-06**	**3.05E-05**	**1.49E-05**	**1.49E-06**	**3.69E-05**	**1.81E-05**	**1.81E-06**	**4.02E-05**	**1.97E-05**	**1.97E-06**
***gamma*-Chlordane**	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Heptachlor	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**6.66E-04**	**NA**	**NA**	**1.13E-02**	**NA**	**NA**	**1.66E-02**	**NA**	**NA**	**2.01E-02**	**NA**	**NA**	**2.18E-02**	**NA**	**NA**
Total HPAH (6)	**1.77E-03**	**NA**	**NA**	**3.04E-03**	**NA**	**NA**	**3.68E-03**	**NA**	**NA**	**4.10E-03**	**NA**	**NA**	**4.32E-03**	**NA**	**NA**
Tributyl Tin	**8.34E-06**	**7.02E-06**	**1.12E-07**	**1.41E-03**	**1.19E-03**	**1.89E-05**	**2.11E-03**	**1.77E-03**	**2.82E-05**	**2.57E-03**	**2.17E-03**	**3.45E-05**	**2.81E-03**	**2.36E-03**	**3.76E-05**

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
Highlighted Cell = HQ > 1.
NA = No TRV
NA = No BAF

Table 6-25. Summary of Surf Scoter BERA HQs for a Range of SUFs for Western Bayside (2005 Surface Data Set)

	SUF= 1			SUF= 0.5			SUF= 0.25			SUF= 0.084			SUF = 0		
	Ref= 0			Ref= 0.5			Ref= 0.75			Ref= 0.916			Ref = 1		
	Dose	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**
Constituent	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless
Antimony	1.55E-03	NA	NA	7.35E-03	NA	NA	1.02E-02	NA	NA	1.22E-02	NA	NA	1.31E-02	NA	NA
Arsenic	2.07E+00	3.82E-01	9.54E-02	1.89E+00	3.47E-01	8.68E-02	1.79E+00	3.30E-01	8.25E-02	1.73E+00	3.19E-01	7.97E-02	1.70E+00	3.13E-01	7.82E-02
Cadmium	2.17E-03	2.54E-02	1.24E-04	2.82E-02	3.31E-01	1.62E-03	4.13E-02	4.84E-01	2.37E-03	4.99E-02	5.85E-01	2.87E-03	5.43E-02	6.37E-01	3.12E-03
Chromium	1.05E+00	4.05E-01	6.91E-02	1.33E+00	5.13E-01	8.75E-02	1.47E+00	5.67E-01	9.67E-02	1.56E+00	6.03E-01	1.03E-01	1.61E+00	6.21E-01	1.06E-01
Copper	9.90E-01	3.86E-01	1.55E-02	1.10E+00	4.28E-01	1.72E-02	1.15E+00	4.49E-01	1.81E-02	1.19E+00	4.63E-01	1.86E-02	1.21E+00	4.70E-01	1.89E-02
Lead	3.64E-01	1.56E+01	3.91E-02	3.11E-01	1.33E+01	3.34E-02	2.85E-01	1.22E+01	3.05E-02	2.67E-01	1.14E+01	2.86E-02	2.58E-01	1.10E+01	2.77E-02
Mercury	1.25E-02	3.14E-01	6.79E-02	1.14E-02	2.88E-01	6.24E-02	1.09E-02	2.75E-01	5.96E-02	1.06E-02	2.67E-01	5.78E-02	1.04E-02	2.63E-01	5.69E-02
Nickel	4.26E-01	2.75E-01	6.66E-03	1.02E+00	6.55E-01	1.59E-02	1.31E+00	8.45E-01	2.05E-02	1.51E+00	9.71E-01	2.35E-02	1.61E+00	1.04E+00	2.51E-02
Silver	4.83E-03	NA	NA	9.13E-03	NA	NA	1.13E-02	NA	NA	1.27E-02	NA	NA	1.34E-02	NA	NA
Zinc	8.71E+00	4.92E-01	4.92E-02	8.55E+00	4.83E-01	4.83E-02	8.46E+00	4.78E-01	4.78E-02	8.41E+00	4.75E-01	4.75E-02	8.38E+00	4.74E-01	4.74E-02
Total PCB	**8.19E-05**	**8.54E-04**	**7.05E-05**	**1.77E-03**	**1.85E-02**	**1.53E-03**	**2.62E-03**	**2.73E-02**	**2.25E-03**	**3.18E-03**	**3.31E-02**	**2.74E-03**	**3.46E-03**	**3.61E-02**	**2.98E-03**
Total 4,4-DDx	2.24E-03	3.14E-01	3.67E-03	1.49E-03	2.09E-01	2.44E-03	1.12E-03	1.57E-01	1.83E-03	8.71E-04	1.22E-01	1.42E-03	7.45E-04	1.04E-01	1.22E-03
Aldrin	1.27E-07	NA	NA	1.74E-05	NA	NA	2.61E-05	NA	NA	3.18E-05	NA	NA	3.47E-05	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	4.16E-07	1.10E-07	2.20E-06	3.03E-05	8.03E-06	1.61E-04	4.53E-05	1.20E-05	2.40E-04	5.52E-05	1.46E-05	2.92E-04	6.03E-05	1.59E-05	3.19E-04
Dieldrin	5.39E-07	6.40E-06	5.67E-07	5.24E-05	6.22E-04	5.51E-05	7.83E-05	9.31E-04	8.24E-05	9.56E-05	1.14E-03	1.00E-04	1.04E-04	1.24E-03	1.10E-04
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.70E-07**	**8.36E-08**	**8.36E-09**	**2.02E-05**	**9.90E-06**	**9.90E-07**	**3.02E-05**	**1.48E-05**	**1.48E-06**	**3.68E-05**	**1.81E-05**	**1.81E-06**	**4.02E-05**	**1.97E-05**	**1.97E-06**
gamma-Chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH (12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total LPAH (6)	5.53E-04	NA	NA	1.12E-02	NA	NA	1.65E-02	NA	NA	2.01E-02	NA	NA	2.18E-02	NA	NA
Total HPAH (6)	4.05E-03	NA	NA	4.18E-03	NA	NA	4.25E-03	NA	NA	4.29E-03	NA	NA	4.32E-03	NA	NA
Tributyl Tin	2.32E-06	1.95E-06	3.10E-08	1.41E-03	1.18E-03	1.88E-05	2.11E-03	1.77E-03	2.82E-05	2.57E-03	2.17E-03	3.44E-05	2.81E-03	2.36E-03	3.76E-05

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-26. Summary of Surf Scoter BERA HQs for a Range of SUFs for Western Bayside (2005 Subsurface Data Set)

	SUF= 1			SUF = 0.5			SUF = 0.25			SUF = 0.084			SUF= 0		
	Ref = 0			Ref = 0.5			Ref = 0.75			Ref = 0.916			Ref= 1		
	Dose	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**
Constituent	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless
Antimony	1.63E-03	NA	NA	7.39E-03	NA	NA	1.03E-02	NA	NA	1.22E-02	NA	NA	1.31E-02	NA	NA
Arsenic	2.07E+00	3.82E-01	9.54E-02	1.89E+00	3.47E-01	8.68E-02	1.79E+00	3.30E-01	8.25E-02	1.73E+00	3.19E-01	7.97E-02	1.70E+00	3.13E-01	7.82E-02
Cadmium	3.85E-03	4.51E-02	2.21E-04	2.91E-02	3.41E-01	1.67E-03	4.17E-02	4.89E-01	2.40E-03	5.01E-02	5.87E-01	2.88E-03	5.43E-02	6.37E-01	3.12E-03
Chromium	1.00E+00	3.86E-01	6.57E-02	1.30E+00	5.03E-01	8.58E-02	1.46E+00	5.62E-01	9.58E-02	1.56E+00	6.01E-01	1.02E-01	1.61E+00	6.21E-01	1.06E-01
Copper	9.88E-01	3.85E-01	1.55E-02	1.10E+00	4.28E-01	1.72E-02	1.15E+00	4.49E-01	1.81E-02	1.19E+00	4.63E-01	1.86E-02	1.21E+00	4.70E-01	1.89E-02
Lead	3.65E-01	1.56E+01	3.92E-02	3.12E-01	1.33E+01	3.34E-02	2.85E-01	1.22E+01	3.06E-02	2.67E-01	1.14E+01	2.86E-02	2.58E-01	1.10E+01	2.77E-02
Mercury	1.26E-02	3.18E-01	6.88E-02	1.15E-02	2.90E-01	6.28E-02	1.10E-02	2.76E-01	5.99E-02	1.06E-02	2.67E-01	5.79E-02	1.04E-02	2.63E-01	5.69E-02
Nickel	4.29E-01	2.76E-01	6.70E-03	1.02E+00	6.56E-01	1.59E-02	1.31E+00	8.45E-01	2.05E-02	1.51E+00	9.71E-01	2.35E-02	1.61E+00	1.04E+00	2.51E-02
Silver	3.15E-03	NA	NA	8.29E-03	NA	NA	1.09E-02	NA	NA	1.26E-02	NA	NA	1.34E-02	NA	NA
Zinc	8.70E+00	4.92E-01	4.92E-02	8.54E+00	4.83E-01	4.83E-02	8.46E+00	4.78E-01	4.78E-02	8.41E+00	4.75E-01	4.75E-02	8.38E+00	4.74E-01	4.74E-02
Total PCB	**6.56E-05**	**6.84E-04**	**5.65E-05**	**1.76E-03**	**1.84E-02**	**1.52E-03**	**2.61E-03**	**2.72E-02**	**2.25E-03**	**3.18E-03**	**3.31E-02**	**2.74E-03**	**3.46E-03**	**3.61E-02**	**2.98E-03**
Total 4,4-DDx	2.24E-03	3.13E-01	3.66E-03	1.49E-03	2.09E-01	2.44E-03	1.12E-03	1.57E-01	1.83E-03	8.70E-04	1.22E-01	1.42E-03	7.45E-04	1.04E-01	1.22E-03
alpha-Chlordane	2.91E-07	7.71E-08	1.54E-06	3.03E-05	8.01E-06	1.60E-04	4.53E-05	1.20E-05	2.40E-04	5.52E-05	1.46E-05	2.92E-04	6.03E-05	1.59E-05	3.19E-04
Dieldrin	6.12E-07	7.27E-06	6.44E-07	5.24E-05	6.23E-04	5.51E-05	7.84E-05	9.31E-04	8.24E-05	9.56E-05	1.14E-03	1.00E-04	1.04E-04	1.24E-03	1.10E-04
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total LPAH (6)	6.99E-03	NA	NA	1.44E-02	NA	NA	1.81E-02	NA	NA	2.06E-02	NA	NA	2.18E-02	NA	NA
Total HPAH (6)	4.81E-02	NA	NA	2.62E-02	NA	NA	1.53E-02	NA	NA	7.99E-03	NA	NA	4.32E-03	NA	NA
Tributyl Tin	2.52E-06	2.12E-06	3.38E-08	1.41E-03	1.18E-03	1.88E-05	2.11E-03	1.77E-03	2.82E-05	2.57E-03	2.17E-03	3.44E-05	2.81E-03	2.36E-03	3.76E-05

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-27. Summary of Least Tern BERA HQs for a Range of SUFs for Western Bayside (All Years Data Set)

	SUF = 1			SUF= 0.5744			SUF= 0		
	Ref = 0			Ref= 0.4256			Ref = 1		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	**1.94E-02**	**NA**	**NA**	**1.19E-02**	**NA**	**NA**	**1.84E-03**	**NA**	**NA**
Arsenic	1.80E-01	6.28E-02	1.57E-02	2.29E-01	8.00E-02	2.00E-02	2.96E-01	1.03E-01	2.58E-02
Cadmium	9.26E-04	2.06E-02	1.01E-04	1.47E-03	3.27E-02	1.60E-04	2.21E-03	4.91E-02	2.41E-04
Chromium	**2.84E-01**	**2.08E-01**	**3.54E-02**	**2.93E-01**	**2.14E-01**	**3.65E-02**	**3.05E-01**	**2.23E-01**	**3.80E-02**
Copper	4.96E-01	3.67E-01	1.48E-02	6.29E-01	4.65E-01	1.87E-02	8.09E-01	5.98E-01	2.40E-02
Lead	7.57E-02	6.12E+00	1.54E-02	8.67E-02	7.01E+00	1.76E-02	1.01E-01	8.21E+00	2.06E-02
Mercury	1.31E-02	6.25E-01	1.36E-01	1.81E-02	8.61E-01	1.87E-01	2.47E-02	1.18E+00	2.55E-01
Nickel	5.83E-02	7.12E-02	1.73E-03	7.62E-02	9.31E-02	2.26E-03	1.00E-01	1.23E-01	2.97E-03
Selenium	9.53E-02	7.87E-01	1.95E-01	1.42E-01	1.18E+00	2.91E-01	2.06E-01	1.70E+00	4.21E-01
Silver	1.60E-03	NA	NA	1.91E-03	NA	NA	2.32E-03	NA	NA
Zinc	5.96E+00	6.39E-01	6.39E-02	7.24E+00	7.76E-01	7.76E-02	8.97E+00	9.61E-01	9.61E-02
Total PCB	**1.42E-02**	**2.81E-01**	**2.32E-02**	**1.17E-02**	**2.32E-01**	**1.92E-02**	**8.39E-03**	**1.66E-01**	**1.37E-02**
Total 4,4-DDx	**9.63E-03**	**2.56E+00**	**2.98E-02**	**7.57E-03**	**2.01E+00**	**2.34E-02**	**4.78E-03**	**1.27E+00**	**1.48E-02**
Aldrin	**4.55E-06**	**NA**	**NA**	**3.49E-06**	**NA**	**NA**	**2.05E-06**	**NA**	**NA**
***alpha*-BHC**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**4.97E-04**	**2.49E-04**	**4.98E-03**	**3.18E-04**	**1.59E-04**	**3.18E-03**	**7.56E-05**	**3.79E-05**	**7.58E-04**
Dieldrin	**4.09E-04**	**9.20E-03**	**8.15E-04**	**2.55E-04**	**5.74E-03**	**5.08E-04**	**4.70E-05**	**1.06E-03**	**9.37E-05**
Endosulfan II	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**9.00E-06**	**8.36E-06**	**8.36E-07**	**5.91E-06**	**5.49E-06**	**5.49E-07**	**1.74E-06**	**1.62E-06**	**1.62E-07**
***gamma*-Chlordane**	**1.61E-05**	**8.07E-06**	**1.61E-06**	**9.66E-06**	**4.84E-06**	**9.69E-07**	**9.73E-07**	**4.88E-07**	**9.76E-08**
Heptachlor	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**5.88E-03**	**NA**	**NA**	**5.81E-03**	**NA**	**NA**	**5.70E-03**	**NA**	**NA**
Total LPAH (6)	**6.09E-03**	**NA**	**NA**	**5.10E-03**	**NA**	**NA**	**3.76E-03**	**NA**	**NA**
Total HPAH (6)	**4.31E-03**	**NA**	**NA**	**4.90E-03**	**NA**	**NA**	**5.70E-03**	**NA**	**NA**
Tributyl Tin	**8.09E-03**	**1.29E-02**	**2.05E-04**	**8.04E-03**	**1.28E-02**	**2.04E-04**	**7.97E-03**	**1.27E-02**	**2.02E-04**

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
Highlighted Cell = HQ > 1 and NA = No TRV

Table 6-28. Summary of Least Tern BERA HQs for a Range of SUFs for Western Bayside (2005 Surface Data Set)

	SUF= 1			SUF= 0.5744			SUF= 0		
	Ref= 0			Ref= 0.4256			Ref= 1		
Constituent	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless
Antimony	1.71E-04	NA	NA	8.82E-04	NA	NA	1.84E-03	NA	NA
Arsenic	1.32E-01	4.60E-02	1.15E-02	2.02E-01	7.04E-02	1.76E-02	2.96E-01	1.03E-01	2.58E-02
Cadmium	1.23E-03	2.72E-02	1.34E-04	1.64E-03	3.65E-02	1.79E-04	2.21E-03	4.91E-02	2.41E-04
Chromium	2.27E-01	1.66E-01	2.83E-02	2.60E-01	1.90E-01	3.24E-02	3.05E-01	2.23E-01	3.80E-02
Copper	4.61E-01	3.41E-01	1.37E-02	6.09E-01	4.50E-01	1.81E-02	8.09E-01	5.98E-01	2.40E-02
Lead	8.07E-02	6.53E+00	1.64E-02	8.95E-02	7.25E+00	1.82E-02	1.01E-01	8.21E+00	2.06E-02
Mercury	1.28E-02	6.08E-01	1.32E-01	1.78E-02	8.51E-01	1.84E-01	2.47E-02	1.18E+00	2.55E-01
Nickel	5.23E-02	6.39E-02	1.55E-03	7.28E-02	8.89E-02	2.16E-03	1.00E-01	1.23E-01	2.97E-03
Silver	2.36E-03	NA	NA	2.34E-03	NA	NA	2.32E-03	NA	NA
Zinc	4.68E+00	5.01E-01	5.01E-02	6.50E+00	6.97E-01	6.97E-02	8.97E+00	9.61E-01	9.61E-02
Total PCB	**2.83E-02**	**5.60E-01**	**4.62E-02**	**1.98E-02**	**3.92E-01**	**3.24E-02**	**8.39E-03**	**1.66E-01**	**1.37E-02**
Total 4,4-DDx	5.83E-03	1.55E+00	1.81E-02	5.38E-03	1.43E+00	1.67E-02	4.78E-03	1.27E+00	1.48E-02
Aldrin	6.56E-07	NA	NA	1.25E-06	NA	NA	2.05E-06	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	1.13E-04	5.66E-05	1.13E-03	9.71E-05	4.87E-05	9.74E-04	7.56E-05	3.79E-05	7.58E-04
Dieldrin	7.46E-05	1.68E-03	1.49E-04	6.29E-05	1.42E-03	1.25E-04	4.70E-05	1.06E-03	9.37E-05
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.23E-06**	**1.14E-06**	**1.14E-07**	**1.45E-06**	**1.35E-06**	**1.35E-07**	**1.74E-06**	**1.62E-06**	**1.62E-07**
gamma-Chlordane	4.43E-06	2.22E-06	4.44E-07	2.96E-06	1.48E-06	2.96E-07	9.73E-07	4.88E-07	9.76E-08
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH (12)	1.12E-02	NA	NA	8.86E-03	NA	NA	5.70E-03	NA	NA
Total LPAH (6)	5.06E-03	NA	NA	4.51E-03	NA	NA	3.76E-03	NA	NA
Total HPAH (6)	9.87E-03	NA	NA	8.10E-03	NA	NA	5.70E-03	NA	NA
Tributyl Tin	2.25E-03	3.58E-03	5.70E-05	4.68E-03	7.47E-03	1.19E-04	7.97E-03	1.27E-02	2.02E-04

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-29. Summary of Least Tern BERA HQs for a Range of SUFs for Western Bayside (2005 Subsurface Data Set)

	SUF = 1			SUF = 0.5744			SUF= 0		
	Ref = 0			Ref = 0.4256			Ref= 1		
Constituent	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless	**Dose** (mg/kg/day)	**NOAEL TRV HQ** unitless	**LOAEL TRV HQ** unitless
Antimony	1.80E-04	NA	NA	8.87E-04	NA	NA	1.84E-03	NA	NA
Arsenic	1.35E-01	4.71E-02	1.18E-02	2.04E-01	7.10E-02	1.77E-02	2.96E-01	1.03E-01	2.58E-02
Cadmium	2.18E-03	4.84E-02	2.37E-04	2.19E-03	4.87E-02	2.39E-04	2.21E-03	4.91E-02	2.41E-04
Chromium	2.16E-01	1.58E-01	2.69E-02	2.54E-01	1.86E-01	3.16E-02	3.05E-01	2.23E-01	3.80E-02
Copper	4.35E-01	3.22E-01	1.29E-02	5.94E-01	4.39E-01	1.77E-02	8.09E-01	5.98E-01	2.40E-02
Lead	8.24E-02	6.67E+00	1.67E-02	9.05E-02	7.32E+00	1.84E-02	1.01E-01	8.21E+00	2.06E-02
Mercury	1.74E-02	8.31E-01	1.80E-01	2.05E-02	9.79E-01	2.12E-01	2.47E-02	1.18E+00	2.55E-01
Nickel	5.37E-02	6.56E-02	1.59E-03	7.36E-02	8.99E-02	2.18E-03	1.00E-01	1.23E-01	2.97E-03
Silver	1.54E-03	NA	NA	1.87E-03	NA	NA	2.32E-03	NA	NA
Zinc	4.43E+00	4.74E-01	4.74E-02	6.36E+00	6.81E-01	6.81E-02	8.97E+00	9.61E-01	9.61E-02
Total PCB	**2.27E-02**	**4.49E-01**	**3.70E-02**	**1.66E-02**	**3.28E-01**	**2.71E-02**	**8.39E-03**	**1.66E-01**	**1.37E-02**
Total 4,4-DDx	3.42E-03	9.07E-01	1.06E-02	4.00E-03	1.06E+00	1.24E-02	4.78E-03	1.27E+00	1.48E-02
alpha-Chlordane	7.91E-05	3.96E-05	7.93E-04	7.76E-05	3.89E-05	7.78E-04	7.56E-05	3.79E-05	7.58E-04
Dieldrin	8.48E-05	1.91E-03	1.69E-04	6.87E-05	1.55E-03	1.37E-04	4.70E-05	1.06E-03	9.37E-05
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**2.82E-06**	**1.41E-06**	**2.83E-07**	**2.03E-06**	**1.02E-06**	**2.04E-07**	**9.73E-07**	**4.88E-07**	**9.76E-08**
Total PAH (12)	1.34E-01	NA	NA	7.94E-02	NA	NA	5.70E-03	NA	NA
Total LPAH (6)	6.39E-02	NA	NA	3.83E-02	NA	NA	3.76E-03	NA	NA
Total HPAH (6)	1.17E-01	NA	NA	6.98E-02	NA	NA	5.70E-03	NA	NA
Tributyl Tin	2.45E-03	3.90E-03	6.21E-05	4.80E-03	7.65E-03	1.22E-04	7.97E-03	1.27E-02	2.02E-04

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1

Table 6-30. Summary of Double-Crested Cormorant BERA HQs for a Range of SUFs for Western Bayside (All Years Data Set)

	SUF= 1			SUF= 0.5			SUF= 0.25			SUF= 0.0167			SUF= 0		
	Ref= 0			Ref= 0.5			Ref= 0.75			Ref= 0.9833			Ref= 1		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	**1.49E-02**	**NA**	**NA**	**8.13E-03**	**NA**	**NA**	**4.77E-03**	**NA**	**NA**	**1.64E-03**	**NA**	**NA**	**1.41E-03**	**NA**	**NA**
Arsenic	4.63E-02	7.84E-03	1.96E-03	6.13E-02	1.04E-02	2.59E-03	6.88E-02	1.16E-02	2.91E-03	7.57E-02	1.28E-02	3.21E-03	7.62E-02	1.29E-02	3.23E-03
Cadmium	3.56E-04	3.84E-03	1.88E-05	6.02E-04	6.49E-03	3.18E-05	7.25E-04	7.82E-03	3.83E-05	8.40E-04	9.06E-03	4.44E-05	8.48E-04	9.15E-03	4.49E-05
Chromium	**1.45E-01**	**5.13E-02**	**8.75E-03**	**1.50E-01**	**5.32E-02**	**9.07E-03**	**1.53E-01**	**5.41E-02**	**9.23E-03**	**1.55E-01**	**5.50E-02**	**9.38E-03**	**1.55E-01**	**5.51E-02**	**9.39E-03**
Copper	1.38E-01	4.94E-02	1.99E-03	1.81E-01	6.50E-02	2.61E-03	2.03E-01	7.28E-02	2.93E-03	2.23E-01	8.00E-02	3.22E-03	2.24E-01	8.05E-02	3.24E-03
Lead	3.61E-02	1.42E+00	3.57E-03	4.23E-02	1.66E+00	4.17E-03	4.54E-02	1.78E+00	4.48E-03	4.83E-02	1.90E+00	4.76E-03	4.85E-02	1.90E+00	4.78E-03
Mercury	3.15E-03	7.30E-02	1.58E-02	4.55E-03	1.05E-01	2.28E-02	5.24E-03	1.21E-01	2.63E-02	5.89E-03	1.36E-01	2.96E-02	5.94E-03	1.37E-01	2.98E-02
Nickel	6.24E-02	3.70E-02	8.97E-04	8.50E-02	5.04E-02	1.22E-03	9.63E-02	5.71E-02	1.38E-03	1.07E-01	6.33E-02	1.54E-03	1.08E-01	6.38E-02	1.55E-03
Selenium	2.15E-02	8.61E-02	2.13E-02	3.40E-02	1.36E-01	3.37E-02	4.02E-02	1.61E-01	3.99E-02	4.60E-02	1.84E-01	4.56E-02	4.65E-02	1.86E-01	4.60E-02
Silver	5.80E-04	NA	NA	7.10E-04	NA	NA	7.75E-04	NA	NA	8.36E-04	NA	NA	8.40E-04	NA	NA
Zinc	1.41E+00	7.31E-02	7.31E-03	1.76E+00	9.15E-02	9.15E-03	1.94E+00	1.01E-01	1.01E-02	2.10E+00	1.09E-01	1.09E-02	2.11E+00	1.10E-01	1.10E-02
Total PCB	**3.19E-03**	**3.06E-02**	**2.53E-03**	**2.54E-03**	**2.43E-02**	**2.01E-03**	**2.21E-03**	**2.12E-02**	**1.75E-03**	**1.90E-03**	**1.83E-02**	**1.51E-03**	**1.88E-03**	**1.80E-02**	**1.49E-03**
Total 4,4-DDx	**2.16E-03**	**2.78E-01**	**3.24E-03**	**1.61E-03**	**2.08E-01**	**2.43E-03**	**1.34E-03**	**1.73E-01**	**2.02E-03**	**1.09E-03**	**1.40E-01**	**1.64E-03**	**1.07E-03**	**1.38E-01**	**1.61E-03**
Aldrin	**1.35E-06**	**NA**	**NA**	**9.78E-07**	**NA**	**NA**	**7.93E-07**	**NA**	**NA**	**6.21E-07**	**NA**	**NA**	**6.09E-07**	**NA**	**NA**
***alpha*-BHC**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**1.12E-04**	**2.72E-05**	**5.44E-04**	**6.43E-05**	**1.57E-05**	**3.13E-04**	**4.07E-05**	**9.90E-06**	**1.98E-04**	**1.86E-05**	**4.52E-06**	**9.04E-05**	**1.70E-05**	**4.14E-06**	**8.27E-05**
Dieldrin	**9.23E-05**	**1.01E-03**	**8.93E-05**	**5.15E-05**	**5.63E-04**	**4.98E-05**	**3.11E-05**	**3.39E-04**	**3.00E-05**	**1.20E-05**	**1.31E-04**	**1.16E-05**	**1.06E-05**	**1.16E-04**	**1.03E-05**
Endosulfan II	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**2.53E-06**	**1.14E-06**	**1.14E-07**	**1.51E-06**	**6.82E-07**	**6.82E-08**	**1.00E-06**	**4.52E-07**	**4.52E-08**	**5.25E-07**	**2.37E-07**	**2.37E-08**	**4.91E-07**	**2.22E-07**	**2.22E-08**
***gamma*-Chlordane**	**4.48E-06**	**1.09E-06**	**2.18E-07**	**2.37E-06**	**5.78E-07**	**1.16E-07**	**1.32E-06**	**3.22E-07**	**6.44E-08**	**3.41E-07**	**8.30E-08**	**1.66E-08**	**2.71E-07**	**6.59E-08**	**1.32E-08**
Heptachlor	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**2.50E-03**	**NA**	**NA**	**2.46E-03**	**NA**	**NA**	**2.44E-03**	**NA**	**NA**	**2.43E-03**	**NA**	**NA**	**2.42E-03**	**NA**	**NA**
Total LPAH (6)	**1.70E-03**	**NA**	**NA**	**1.37E-03**	**NA**	**NA**	**1.21E-03**	**NA**	**NA**	**1.06E-03**	**NA**	**NA**	**1.05E-03**	**NA**	**NA**
Total HPAH (6)	**1.83E-03**	**NA**	**NA**	**2.13E-03**	**NA**	**NA**	**2.28E-03**	**NA**	**NA**	**2.41E-03**	**NA**	**NA**	**2.42E-03**	**NA**	**NA**
Tributyl Tin	**1.81E-03**	**1.40E-03**	**2.23E-05**	**1.79E-03**	**1.39E-03**	**2.21E-05**	**1.79E-03**	**1.38E-03**	**2.20E-05**	**1.78E-03**	**1.38E-03**	**2.19E-05**	**1.78E-03**	**1.38E-03**	**2.19E-05**

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-31. Summary of Double-Crested Cormorant BERA HQs for a Range of SUFs for Western Bayside (2005 Surface Data Set)

	SUF= 1			SUF= 0.5			SUF= 0.25			SUF= 0.0167			SUF= 0		
	Ref= 0			Ref= 0.5			Ref= 0.75			Ref= 0.9833			Ref= 1		
	Dose	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**	**Dose**	**NOAEL TRV HQ**	**LOAEL TRV HQ**
Constituent	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless
Antimony	1.31E-04	NA	NA	7.72E-04	NA	NA	1.09E-03	NA	NA	1.39E-03	NA	NA	1.41E-03	NA	NA
Arsenic	3.40E-02	5.75E-03	1.44E-03	5.51E-02	9.33E-03	2.33E-03	6.57E-02	1.11E-02	2.78E-03	7.55E-02	1.28E-02	3.20E-03	7.62E-02	1.29E-02	3.23E-03
Cadmium	4.70E-04	5.07E-03	2.49E-05	6.59E-04	7.11E-03	3.49E-05	7.54E-04	8.13E-03	3.99E-05	8.42E-04	9.08E-03	4.45E-05	8.48E-04	9.15E-03	4.49E-05
Chromium	1.16E-01	4.10E-02	6.99E-03	1.35E-01	4.80E-02	8.19E-03	1.45E-01	5.16E-02	8.79E-03	1.55E-01	5.49E-02	9.35E-03	1.55E-01	5.51E-02	9.39E-03
Copper	1.28E-01	4.59E-02	1.85E-03	1.76E-01	6.32E-02	2.54E-03	2.00E-01	7.19E-02	2.89E-03	2.23E-01	8.00E-02	3.22E-03	2.24E-01	8.05E-02	3.24E-03
Lead	3.86E-02	1.51E+00	3.80E-03	4.35E-02	1.71E+00	4.29E-03	4.60E-02	1.81E+00	4.54E-03	4.83E-02	1.90E+00	4.77E-03	4.85E-02	1.90E+00	4.78E-03
Mercury	3.07E-03	7.09E-02	1.54E-02	4.50E-03	1.04E-01	2.26E-02	5.22E-03	1.21E-01	2.62E-02	5.89E-03	1.36E-01	2.95E-02	5.94E-03	1.37E-01	2.98E-02
Nickel	5.60E-02	3.32E-02	8.05E-04	8.18E-02	4.85E-02	1.18E-03	9.47E-02	5.62E-02	1.36E-03	1.07E-01	6.33E-02	1.53E-03	1.08E-01	6.38E-02	1.55E-03
Silver	8.56E-04	NA	NA	8.48E-04	NA	NA	8.44E-04	NA	NA	8.40E-04	NA	NA	8.40E-04	NA	NA
Zinc	1.10E+00	5.74E-02	5.74E-03	1.61E+00	8.36E-02	8.36E-03	1.86E+00	9.68E-02	9.68E-03	2.10E+00	1.09E-01	1.09E-02	2.11E+00	1.10E-01	1.10E-02
Total PCB	**6.36E-03**	**6.10E-02**	**5.04E-03**	**4.12E-03**	**3.95E-02**	**3.26E-03**	**3.00E-03**	**2.88E-02**	**2.38E-03**	**1.96E-03**	**1.88E-02**	**1.55E-03**	**1.88E-03**	**1.80E-02**	**1.49E-03**
Total 4,4-DDx	1.31E-03	1.68E-01	1.96E-03	1.19E-03	1.53E-01	1.79E-03	1.13E-03	1.45E-01	1.70E-03	1.07E-03	1.38E-01	1.62E-03	1.07E-03	1.38E-01	1.61E-03
Aldrin	1.94E-07	NA	NA	4.02E-07	NA	NA	5.05E-07	NA	NA	6.02E-07	NA	NA	6.09E-07	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	2.54E-05	6.18E-06	1.24E-04	2.12E-05	5.16E-06	1.03E-04	1.91E-05	4.65E-06	9.30E-05	1.71E-05	4.17E-06	8.34E-05	1.70E-05	4.14E-06	8.27E-05
Dieldrin	1.69E-05	1.84E-04	1.63E-05	1.37E-05	1.50E-04	1.33E-05	1.22E-05	1.33E-04	1.18E-05	1.07E-05	1.17E-04	1.04E-05	1.06E-05	1.16E-04	1.03E-05
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**3.46E-07**	**1.56E-07**	**1.56E-08**	**4.19E-07**	**1.89E-07**	**1.89E-08**	**4.55E-07**	**2.05E-07**	**2.05E-08**	**4.89E-07**	**2.21E-07**	**2.21E-08**	**4.91E-07**	**2.22E-07**	**2.22E-08**
gamma-Chlordane	1.23E-06	3.00E-07	6.00E-08	7.51E-07	1.83E-07	3.66E-08	5.11E-07	1.24E-07	2.49E-08	2.87E-07	6.98E-08	1.40E-08	2.71E-07	6.59E-08	1.32E-08
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PAH (12)	4.76E-03	NA	NA	3.59E-03	NA	NA	3.01E-03	NA	NA	2.46E-03	NA	NA	2.42E-03	NA	NA
Total LPAH (6)	1.41E-03	NA	NA	1.23E-03	NA	NA	1.14E-03	NA	NA	1.05E-03	NA	NA	1.05E-03	NA	NA
Total HPAH (6)	4.20E-03	NA	NA	3.31E-03	NA	NA	2.87E-03	NA	NA	2.45E-03	NA	NA	2.42E-03	NA	NA
Tributyl Tin	5.02E-04	3.89E-04	6.18E-06	1.14E-03	8.84E-04	1.41E-05	1.46E-03	1.13E-03	1.80E-05	1.76E-03	1.36E-03	2.17E-05	1.78E-03	1.38E-03	2.19E-05

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-32. Summary of Double-Crested Cormorant BERA HQs for a Range of SUFs for Western Bayside (2005 Subsurface Data Set)

	SUF= 1		
	Ref= 0		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	1.38E-04	NA	NA
Arsenic	3.47E-02	5.88E-03	1.47E-03
Cadmium	8.36E-04	9.02E-03	4.42E-05
Chromium	1.10E-01	3.90E-02	6.65E-03
Copper	1.21E-01	4.34E-02	1.74E-03
Lead	3.94E-02	1.55E+00	3.88E-03
Mercury	4.19E-03	9.70E-02	2.10E-02
Nickel	5.75E-02	3.41E-02	8.26E-04
Silver	5.59E-04	NA	NA
Zinc	1.04E+00	5.43E-02	5.43E-03
Total PCB	**5.09E-03**	**4.88E-02**	**4.03E-03**
Total 4,4-DDx	7.65E-04	9.86E-02	1.15E-03
alpha-Chlordane	1.78E-05	4.33E-06	8.65E-05
Dieldrin	1.92E-05	2.09E-04	1.85E-05
Endosulfan II	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**7.85E-07**	**1.91E-07**	**3.82E-08**
Total PAH (12)	5.70E-02	NA	NA
Total LPAH (6)	1.78E-02	NA	NA
Total HPAH (6)	4.98E-02	NA	NA
Tributyl Tin	5.46E-04	4.23E-04	6.73E-06

	SUF= 0.5		
	Ref= 0.5		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	7.76E-04	NA	NA
Arsenic	5.55E-02	9.40E-03	2.35E-03
Cadmium	8.42E-04	9.08E-03	4.45E-05
Chromium	1.33E-01	4.71E-02	8.02E-03
Copper	1.73E-01	6.19E-02	2.49E-03
Lead	4.39E-02	1.73E+00	4.33E-03
Mercury	5.07E-03	1.17E-01	2.54E-02
Nickel	8.25E-02	4.89E-02	1.19E-03
Silver	7.00E-04	NA	NA
Zinc	1.58E+00	8.21E-02	8.21E-03
Total PCB	**3.49E-03**	**3.34E-02**	**2.76E-03**
Total 4,4-DDx	9.18E-04	1.18E-01	1.38E-03
alpha-Chlordane	1.74E-05	4.23E-06	8.46E-05
Dieldrin	1.49E-05	1.63E-04	1.44E-05
Endosulfan II	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**5.28E-07**	**1.29E-07**	**2.57E-08**
Total PAH (12)	2.97E-02	NA	NA
Total LPAH (6)	9.42E-03	NA	NA
Total HPAH (6)	2.61E-02	NA	NA
Tributyl Tin	1.16E-03	9.01E-04	1.43E-05

	SUF= 0.25		
	Ref= 0.75		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	1.09E-03	NA	NA
Arsenic	6.59E-02	1.12E-02	2.79E-03
Cadmium	8.45E-04	9.12E-03	4.47E-05
Chromium	1.44E-01	5.11E-02	8.71E-03
Copper	1.99E-01	7.12E-02	2.87E-03
Lead	4.62E-02	1.82E+00	4.56E-03
Mercury	5.50E-03	1.27E-01	2.76E-02
Nickel	9.50E-02	5.64E-02	1.37E-03
Silver	7.70E-04	NA	NA
Zinc	1.85E+00	9.60E-02	9.60E-03
Total PCB	**2.68E-03**	**2.57E-02**	**2.13E-03**
Total 4,4-DDx	9.94E-04	1.28E-01	1.50E-03
alpha-Chlordane	1.72E-05	4.18E-06	8.37E-05
Dieldrin	1.28E-05	1.39E-04	1.23E-05
Endosulfan II	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**3.99E-07**	**9.72E-08**	**1.94E-08**
Total PAH (12)	1.61E-02	NA	NA
Total LPAH (6)	5.24E-03	NA	NA
Total HPAH (6)	1.43E-02	NA	NA
Tributyl Tin	1.47E-03	1.14E-03	1.81E-05

	SUF= 0.0167		
	Ref= 0.9833		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	1.39E-03	NA	NA
Arsenic	7.55E-02	1.28E-02	3.20E-03
Cadmium	8.48E-04	9.15E-03	4.49E-05
Chromium	1.55E-01	5.48E-02	9.35E-03
Copper	2.23E-01	7.99E-02	3.21E-03
Lead	4.83E-02	1.90E+00	4.77E-03
Mercury	5.91E-03	1.37E-01	2.96E-02
Nickel	1.07E-01	6.33E-02	1.53E-03
Silver	8.35E-04	NA	NA
Zinc	2.10E+00	1.09E-01	1.09E-02
Total PCB	**1.94E-03**	**1.86E-02**	**1.53E-03**
Total 4,4-DDx	1.07E-03	1.37E-01	1.60E-03
alpha-Chlordane	1.70E-05	4.14E-06	8.28E-05
Dieldrin	1.08E-05	1.18E-04	1.04E-05
Endosulfan II	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**2.79E-07**	**6.80E-08**	**1.36E-08**
Total PAH (12)	3.34E-03	NA	NA
Total LPAH (6)	1.33E-03	NA	NA
Total HPAH (6)	3.22E-03	NA	NA
Tributyl Tin	1.76E-03	1.36E-03	2.17E-05

	SUF= 0		
	Ref= 1		
Constituent	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	1.41E-03	NA	NA
Arsenic	7.62E-02	1.29E-02	3.23E-03
Cadmium	8.48E-04	9.15E-03	4.49E-05
Chromium	1.55E-01	5.51E-02	9.39E-03
Copper	2.24E-01	8.05E-02	3.24E-03
Lead	4.85E-02	1.90E+00	4.78E-03
Mercury	5.94E-03	1.37E-01	2.98E-02
Nickel	1.08E-01	6.38E-02	1.55E-03
Silver	8.40E-04	NA	NA
Zinc	2.11E+00	1.10E-01	1.10E-02
Total PCB	**1.88E-03**	**1.80E-02**	**1.49E-03**
Total 4,4-DDx	1.07E-03	1.38E-01	1.61E-03
alpha-Chlordane	1.70E-05	4.14E-06	8.27E-05
Dieldrin	1.06E-05	1.16E-04	1.03E-05
Endosulfan II	NA	NA	NA
Endrin Aldehyde	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**2.71E-07**	**6.59E-08**	**1.32E-08**
Total PAH (12)	2.42E-03	NA	NA
Total LPAH (6)	1.05E-03	NA	NA
Total HPAH (6)	2.42E-03	NA	NA
Tributyl Tin	1.78E-03	1.38E-03	2.19E-05

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-33. Summary of Surf Scoter BERA HQs for a Range of SUFs for Breakwater Beach

	SUF = 1			SUF= 0.5			SUF = 0.25			SUF= 0.046			SUF = 0		
	Ref = 0			Ref= 0.5			Ref = 0.75			Ref = 0.954			Ref = 1		
	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ
Constituent	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless
Antimony	6.00E-03	NA	NA	9.57E-03	NA	NA	1.14E-02	NA	NA	1.28E-02	NA	NA	1.31E-02	NA	NA
Arsenic	2.05E+00	3.78E-01	9.46E-02	1.88E+00	3.46E-01	8.64E-02	1.79E+00	3.29E-01	8.23E-02	1.72E+00	3.16E-01	7.90E-02	1.70E+00	3.13E-01	7.82E-02
Cadmium	**2.04E-02**	**2.39E-01**	**1.17E-03**	**3.73E-02**	**4.38E-01**	**2.15E-03**	**4.58E-02**	**5.37E-01**	**2.63E-03**	**5.27E-02**	**6.18E-01**	**3.03E-03**	**5.43E-02**	**6.37E-01**	**3.12E-03**
Chromium	**4.44E+00**	**1.71E+00**	**2.92E-01**	**3.03E+00**	**1.17E+00**	**1.99E-01**	**2.32E+00**	**8.94E-01**	**1.52E-01**	**1.74E+00**	**6.71E-01**	**1.14E-01**	**1.61E+00**	**6.21E-01**	**1.06E-01**
Copper	**1.42E+00**	**5.55E-01**	**2.23E-02**	**1.31E+00**	**5.13E-01**	**2.06E-02**	**1.26E+00**	**4.92E-01**	**1.98E-02**	**1.22E+00**	**4.74E-01**	**1.91E-02**	**1.21E+00**	**4.70E-01**	**1.89E-02**
Lead	**2.20E-01**	**9.40E+00**	**2.36E-02**	**2.39E-01**	**1.02E+01**	**2.57E-02**	**2.49E-01**	**1.06E+01**	**2.67E-02**	**2.56E-01**	**1.10E+01**	**2.75E-02**	**2.58E-01**	**1.10E+01**	**2.77E-02**
Mercury	**5.48E-03**	**1.38E-01**	**2.99E-02**	**7.96E-03**	**2.00E-01**	**4.34E-02**	**9.20E-03**	**2.31E-01**	**5.01E-02**	**1.02E-02**	**2.57E-01**	**5.56E-02**	**1.04E-02**	**2.63E-01**	**5.69E-02**
Nickel	3.01E+00	1.94E+00	4.70E-02	2.31E+00	1.49E+00	3.60E-02	1.96E+00	1.26E+00	3.06E-02	1.67E+00	1.08E+00	2.61E-02	1.61E+00	1.04E+00	2.51E-02
Selenium	**2.41E-01**	**1.05E+00**	**2.60E-01**	**2.89E-01**	**1.26E+00**	**3.12E-01**	**3.13E-01**	**1.36E+00**	**3.37E-01**	**3.33E-01**	**1.45E+00**	**3.58E-01**	**3.37E-01**	**1.47E+00**	**3.63E-01**
Silver	**2.26E-02**	**NA**	**NA**	**1.80E-02**	**NA**	**NA**	**1.57E-02**	**NA**	**NA**	**1.38E-02**	**NA**	**NA**	**1.34E-02**	**NA**	**NA**
Zinc	9.13E+00	5.16E-01	5.16E-02	8.76E+00	4.95E-01	4.95E-02	8.57E+00	4.84E-01	4.84E-02	8.42E+00	4.76E-01	4.76E-02	8.38E+00	4.74E-01	4.74E-02
Total PCB	**1.85E-02**	**1.93E-01**	**1.59E-02**	**1.10E-02**	**1.14E-01**	**9.44E-03**	**7.21E-03**	**7.52E-02**	**6.21E-03**	**4.15E-03**	**4.33E-02**	**3.58E-03**	**3.46E-03**	**3.61E-02**	**2.98E-03**
Total 4,4-DDx	**1.26E-03**	**1.76E-01**	**2.05E-03**	**1.00E-03**	**1.40E-01**	**1.64E-03**	**8.73E-04**	**1.22E-01**	**1.43E-03**	**7.68E-04**	**1.08E-01**	**1.26E-03**	**7.45E-04**	**1.04E-01**	**1.22E-03**
Aldrin	**2.48E-04**	**NA**	**NA**	**1.41E-04**	**NA**	**NA**	**8.80E-05**	**NA**	**NA**	**4.45E-05**	**NA**	**NA**	**3.47E-05**	**NA**	**NA**
***alpha*-Chlordane**	**7.02E-05**	**1.86E-05**	**3.72E-04**	**6.52E-05**	**1.73E-05**	**3.45E-04**	**6.28E-05**	**1.66E-05**	**3.32E-04**	**6.07E-05**	**1.61E-05**	**3.21E-04**	**6.03E-05**	**1.59E-05**	**3.19E-04**
Dieldrin	**1.61E-04**	**1.92E-03**	**1.70E-04**	**1.33E-04**	**1.58E-03**	**1.40E-04**	**1.19E-04**	**1.41E-03**	**1.25E-04**	**1.07E-04**	**1.27E-03**	**1.12E-04**	**1.04E-04**	**1.24E-03**	**1.10E-04**
Endosulfan II	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.24E-04**	**6.07E-05**	**6.07E-06**	**8.19E-05**	**4.02E-05**	**4.02E-06**	**6.11E-05**	**3.00E-05**	**3.00E-06**	**4.40E-05**	**2.16E-05**	**2.16E-06**	**4.02E-05**	**1.97E-05**	**1.97E-06**
***gamma*-Chlordane**	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Total PAH (12)	**2.52E-01**	**NA**	**NA**	**1.28E-01**	**NA**	**NA**	**6.62E-02**	**NA**	**NA**	**1.57E-02**	**NA**	**NA**	**4.32E-03**	**NA**	**NA**
Total LPAH (6)	**1.21E-02**	**NA**	**NA**	**1.70E-02**	**NA**	**NA**	**1.94E-02**	**NA**	**NA**	**2.14E-02**	**NA**	**NA**	**2.18E-02**	**NA**	**NA**
Total HPAH (6)	**2.38E-01**	**NA**	**NA**	**1.21E-01**	**NA**	**NA**	**6.26E-02**	**NA**	**NA**	**1.50E-02**	**NA**	**NA**	**4.32E-03**	**NA**	**NA**
Tributyl Tin	**1.60E-03**	**1.35E-03**	**2.15E-05**	**2.21E-03**	**1.86E-03**	**2.95E-05**	**2.51E-03**	**2.11E-03**	**3.36E-05**	**2.75E-03**	**2.32E-03**	**3.69E-05**	**2.81E-03**	**2.36E-03**	**3.76E-05**

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
NA = No BAF
Highlighted Cell = HQ > 1.

Table 6-34. Summary of Least Tern BERA HQs for a Range of SUFs for Breakwater Beach

	SUF= 1			SUF= 0.5			SUF= 0.25			SUF= 0.038			SUF= 0		
	Ref= 0			Ref= 0.5			Ref= 0.75			Ref= 0.962			Ref= 1		
	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ	Dose	NOAEL TRV HQ	LOAEL TRV HQ
Constituent	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless	(mg/kg/day)	unitless	unitless
Antimony	1.84E-03	NA	NA	1.84E-03	NA	NA	1.84E-03	NA	NA	1.84E-03	NA	NA	1.84E-03	NA	NA
Arsenic	2.46E-01	8.58E-02	2.15E-02	2.71E-01	9.46E-02	2.36E-02	2.84E-01	9.89E-02	2.47E-02	2.94E-01	1.03E-01	2.57E-02	2.96E-01	1.03E-01	2.58E-02
Cadmium	**1.21E-03**	**2.69E-02**	**1.32E-04**	**1.71E-03**	**3.80E-02**	**1.86E-04**	**1.96E-03**	**4.36E-02**	**2.14E-04**	**2.17E-03**	**4.83E-02**	**2.37E-04**	**2.21E-03**	**4.91E-02**	**2.41E-04**
Chromium	**3.63E-01**	**2.66E-01**	**4.53E-02**	**3.34E-01**	**2.44E-01**	**4.16E-02**	**3.20E-01**	**2.34E-01**	**3.98E-02**	**3.07E-01**	**2.24E-01**	**3.83E-02**	**3.05E-01**	**2.23E-01**	**3.80E-02**
Copper	**9.18E-01**	**6.78E-01**	**2.73E-02**	**8.63E-01**	**6.38E-01**	**2.57E-02**	**8.36E-01**	**6.18E-01**	**2.49E-02**	**8.13E-01**	**6.01E-01**	**2.42E-02**	**8.09E-01**	**5.98E-01**	**2.40E-02**
Lead	**1.18E-01**	**9.55E+00**	**2.40E-02**	**1.10E-01**	**8.88E+00**	**2.23E-02**	**1.06E-01**	**8.55E+00**	**2.15E-02**	**1.02E-01**	**8.26E+00**	**2.08E-02**	**1.01E-01**	**8.21E+00**	**2.06E-02**
Mercury	**2.00E-02**	**9.55E-01**	**2.07E-01**	**2.24E-02**	**1.07E+00**	**2.31E-01**	**2.35E-02**	**1.12E+00**	**2.43E-01**	**2.45E-02**	**1.17E+00**	**2.53E-01**	**2.47E-02**	**1.18E+00**	**2.55E-01**
Nickel	8.35E-02	1.02E-01	2.47E-03	9.20E-02	1.12E-01	2.72E-03	9.62E-02	1.18E-01	2.85E-03	9.98E-02	1.22E-01	2.96E-03	1.00E-01	1.23E-01	2.97E-03
Selenium	**2.92E-01**	**2.41E+00**	**5.97E-01**	**2.49E-01**	**2.06E+00**	**5.09E-01**	**2.28E-01**	**1.88E+00**	**4.65E-01**	**2.09E-01**	**1.73E+00**	**4.27E-01**	**2.06E-01**	**1.70E+00**	**4.21E-01**
Silver	**3.64E-03**	**NA**	**NA**	**2.98E-03**	**NA**	**NA**	**2.65E-03**	**NA**	**NA**	**2.37E-03**	**NA**	**NA**	**2.32E-03**	**NA**	**NA**
Zinc	1.01E+01	1.08E+00	1.08E-01	9.51E+00	1.02E+00	1.02E-01	9.24E+00	9.90E-01	9.90E-02	9.01E+00	9.65E-01	9.65E-02	8.97E+00	9.61E-01	9.61E-02
Total PCB	**1.85E-01**	**3.66E+00**	**3.02E-01**	**9.69E-02**	**1.91E+00**	**1.58E-01**	**5.26E-02**	**1.04E+00**	**8.59E-02**	**1.51E-02**	**2.99E-01**	**2.47E-02**	**8.39E-03**	**1.66E-01**	**1.37E-02**
Total 4,4-DDx	**6.90E-03**	**1.83E+00**	**2.14E-02**	**5.84E-03**	**1.55E+00**	**1.81E-02**	**5.31E-03**	**1.41E+00**	**1.65E-02**	**4.86E-03**	**1.29E+00**	**1.51E-02**	**4.78E-03**	**1.27E+00**	**1.48E-02**
Aldrin	**4.84E-06**	**NA**	**NA**	**3.45E-06**	**NA**	**NA**	**2.75E-06**	**NA**	**NA**	**2.16E-06**	**NA**	**NA**	**2.05E-06**	**NA**	**NA**
***alpha*-Chlordane**	**1.11E-04**	**5.58E-05**	**1.12E-03**	**9.35E-05**	**4.69E-05**	**9.37E-04**	**8.45E-05**	**4.24E-05**	**8.48E-04**	**7.70E-05**	**3.86E-05**	**7.72E-04**	**7.56E-05**	**3.79E-05**	**7.58E-04**
Dieldrin	**2.25E-04**	**5.07E-03**	**4.48E-04**	**1.36E-04**	**3.06E-03**	**2.71E-04**	**9.15E-05**	**2.06E-03**	**1.82E-04**	**5.38E-05**	**1.21E-03**	**1.07E-04**	**4.70E-05**	**1.06E-03**	**9.37E-05**
Endosulfan II	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**3.25E-05**	**3.02E-05**	**3.02E-06**	**1.71E-05**	**1.59E-05**	**1.59E-06**	**9.43E-06**	**8.77E-06**	**8.77E-07**	**2.91E-06**	**2.71E-06**	**2.71E-07**	**1.74E-06**	**1.62E-06**	**1.62E-07**
***gamma*-Chlordane**	**2.16E-05**	**1.08E-05**	**2.16E-06**	**1.13E-05**	**5.65E-06**	**1.13E-06**	**6.12E-06**	**3.07E-06**	**6.14E-07**	**1.76E-06**	**8.80E-07**	**1.76E-07**	**9.73E-07**	**4.88E-07**	**9.76E-08**
Total PAH (12)	**1.39E-02**	**NA**	**NA**	**9.78E-03**	**NA**	**NA**	**7.74E-03**	**NA**	**NA**	**6.01E-03**	**NA**	**NA**	**5.70E-03**	**NA**	**NA**
Total LPAH (6)	**1.68E-02**	**NA**	**NA**	**1.03E-02**	**NA**	**NA**	**7.01E-03**	**NA**	**NA**	**4.25E-03**	**NA**	**NA**	**3.76E-03**	**NA**	**NA**
Total HPAH (6)	**8.63E-03**	**NA**	**NA**	**7.17E-03**	**NA**	**NA**	**6.43E-03**	**NA**	**NA**	**5.81E-03**	**NA**	**NA**	**5.70E-03**	**NA**	**NA**
Tributyl Tin	**6.43E-03**	**1.03E-02**	**1.63E-04**	**7.20E-03**	**1.15E-02**	**1.83E-04**	**7.59E-03**	**1.21E-02**	**1.92E-04**	**7.91E-03**	**1.26E-02**	**2.01E-04**	**7.97E-03**	**1.27E-02**	**2.02E-04**

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 6-35. Summary of Double-Crested Cormorant BERA HQs for a Range of SUFs for Breakwater Beach

Constituent	SUF= 1, Ref= 0			SUF= 0.5, Ref= 0.5			SUF= 0.25, Ref= 0.75			SUF= 0.006, Ref= 0.994			SUF= 0, Ref= 1		
	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless	Dose (mg/kg/day)	NOAEL TRV HQ unitless	LOAEL TRV HQ unitless
Antimony	1.41E-03	NA	NA	1.41E-03	NA	NA	1.41E-03	NA	NA	1.41E-03	NA	NA	1.41E-03	NA	NA
Arsenic	6.34E-02	1.07E-02	2.68E-03	6.98E-02	1.18E-02	2.95E-03	7.30E-02	1.24E-02	3.09E-03	7.61E-02	1.29E-02	3.22E-03	7.62E-02	1.29E-02	3.23E-03
Cadmium	4.65E-04	5.02E-03	2.46E-05	6.57E-04	7.08E-03	3.47E-05	7.53E-04	8.12E-03	3.98E-05	8.45E-04	9.11E-03	4.47E-05	8.48E-04	9.15E-03	4.49E-05
Chromium	1.85E-01	6.56E-02	1.12E-02	1.70E-01	6.04E-02	1.03E-02	1.63E-01	5.77E-02	9.84E-03	1.56E-01	5.52E-02	9.41E-03	1.55E-01	5.51E-02	9.39E-03
Copper	2.55E-01	9.14E-02	3.68E-03	2.40E-01	8.60E-02	3.46E-03	2.32E-01	8.33E-02	3.35E-03	2.25E-01	8.06E-02	3.24E-03	2.24E-01	8.05E-02	3.24E-03
Lead	5.64E-02	2.22E+00	5.56E-03	5.25E-02	2.06E+00	5.17E-03	5.05E-02	1.98E+00	4.98E-03	4.86E-02	1.91E+00	4.79E-03	4.85E-02	1.90E+00	4.78E-03
Mercury	4.81E-03	1.11E-01	2.41E-02	5.38E-03	1.24E-01	2.70E-02	5.66E-03	1.31E-01	2.84E-02	5.93E-03	1.37E-01	2.97E-02	5.94E-03	1.37E-01	2.98E-02
Nickel	8.94E-02	5.31E-02	1.29E-03	9.85E-02	5.84E-02	1.42E-03	1.03E-01	6.11E-02	1.48E-03	1.07E-01	6.37E-02	1.54E-03	1.08E-01	6.38E-02	1.55E-03
Selenium	6.59E-02	2.64E-01	6.53E-02	5.62E-02	2.25E-01	5.57E-02	5.13E-02	2.06E-01	5.08E-02	4.66E-02	1.87E-01	4.62E-02	4.65E-02	1.86E-01	4.60E-02
Silver	1.32E-03	NA	NA	1.08E-03	NA	NA	9.60E-04	NA	NA	8.44E-04	NA	NA	8.40E-04	NA	NA
Zinc	2.37E+00	1.23E-01	1.23E-02	2.24E+00	1.17E-01	1.17E-02	2.18E+00	1.13E-01	1.13E-02	2.12E+00	1.10E-01	1.10E-02	2.11E+00	1.10E-01	1.10E-02
Total PCB	4.16E-02	3.99E-01	3.29E-02	2.17E-02	2.08E-01	1.72E-02	1.18E-02	1.13E-01	9.35E-03	2.25E-03	2.16E-02	1.78E-03	1.88E-03	1.80E-02	1.49E-03
Total 4,4-DDx	1.54E-03	1.99E-01	2.32E-03	1.31E-03	1.68E-01	1.97E-03	1.19E-03	1.53E-01	1.79E-03	1.08E-03	1.39E-01	1.62E-03	1.07E-03	1.38E-01	1.61E-03
Aldrin	1.43E-06	NA	NA	1.02E-06	NA	NA	8.15E-07	NA	NA	6.16E-07	NA	NA	6.09E-07	NA	NA
***alpha*-Chlordane**	2.50E-05	6.09E-06	1.22E-04	2.10E-05	5.11E-06	1.02E-04	1.90E-05	4.63E-06	9.25E-05	1.71E-05	4.16E-06	8.31E-05	1.70E-05	4.14E-06	8.27E-05
Dieldrin	5.08E-05	5.56E-04	4.92E-05	3.07E-05	3.36E-04	2.97E-05	2.07E-05	2.26E-04	2.00E-05	1.10E-05	1.20E-04	1.06E-05	1.06E-05	1.16E-04	1.03E-05
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
***gamma*-BHC**	9.15E-06	4.13E-06	4.13E-07	4.82E-06	2.18E-06	2.18E-07	2.66E-06	1.20E-06	1.20E-07	5.71E-07	2.58E-07	2.58E-08	4.91E-07	2.22E-07	2.22E-08
***gamma*-Chlordane**	6.01E-06	1.46E-06	2.92E-07	3.14E-06	7.64E-07	1.53E-07	1.70E-06	4.15E-07	8.30E-08	3.24E-07	7.87E-08	1.57E-08	2.71E-07	6.59E-08	1.32E-08
Total PAH (12)	5.89E-03	NA	NA	4.16E-03	NA	NA	3.29E-03	NA	NA	2.46E-03	NA	NA	2.42E-03	NA	NA
Total LPAH (6)	4.67E-03	NA	NA	2.86E-03	NA	NA	1.95E-03	NA	NA	1.08E-03	NA	NA	1.05E-03	NA	NA
Total HPAH (6)	3.67E-03	NA	NA	3.05E-03	NA	NA	2.74E-03	NA	NA	2.44E-03	NA	NA	2.42E-03	NA	NA
Tributyl Tin	1.44E-03	1.11E-03	1.77E-05	1.61E-03	1.25E-03	1.98E-05	1.69E-03	1.31E-03	2.09E-05	1.78E-03	1.38E-03	2.19E-05	1.78E-03	1.38E-03	2.19E-05

Bold text indicates sediment concentrations above background. Constituents retained as a Tier 2 COPEC.
NA = No TRV
Highlighted Cell = HQ > 1.

Table 7-1. Summary of Cancer Risks Associated with Direct Contact with Sediments for Western Bayside with and without Skeet Range Data

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Risks	
	Risk Values		Risk Values			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	1.85E-08	3.76E-10	2.89E-08	5.88E-10	1.43E-08	2.90E-10
Benzo(a)pyrene	3.37E-07	6.84E-09	5.55E-07	1.13E-08	2.59E-07	5.26E-09
Benzo(b)fluoranthene	3.21E-08	6.53E-10	5.02E-08	1.02E-09	2.16E-08	4.39E-10
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	2.20E-08	4.46E-10	3.54E-08	7.20E-10	2.14E-08	4.35E-10
Chrysene	2.64E-09	5.37E-11	3.99E-09	8.10E-11	1.55E-09	3.14E-11
Dibenzo(a,h)anthracene	3.72E-08	7.55E-10	5.54E-08	1.13E-09	1.28E-08	2.60E-10
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	2.72E-08	5.53E-10	3.93E-08	7.98E-10	2.18E-08	4.43E-10
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	4.04E-10	7.76E-12	1.45E-09	2.79E-11	1.76E-10	3.39E-12
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
Total Cumulative Risk	4.77E-07	9.69E-09	7.70E-07	1.56E-08	3.53E-07	7.16E-09

(1) RME Risks are based on age-adjusted exposure factors.

Table 7-2. Summary of Non-Cancer Hazards Associated with Direct Contact with Sediments for Western Bayside with and without Skeet Range Data

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Hazard	
	Hazard Quotient		Hazard Quotient			
	RME	CTE	RME	CTE	RME	CTE
Acenaphthene	8.78E-08	1.41E-08	1.57E-07	2.52E-08	2.03E-08	3.26E-09
Acenaphthylene	---	---	---	---	---	---
Anthracene	2.89E-08	4.64E-09	4.39E-08	7.05E-09	1.77E-08	2.84E-09
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	6.51E-07	1.09E-07	1.08E-06	1.81E-07	6.58E-07	1.10E-07
Fluorene	1.14E-07	1.83E-08	1.83E-07	2.95E-08	2.40E-08	3.86E-09
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	2.78E-07	4.46E-08	1.41E-06	2.27E-07	2.29E-07	3.67E-08
Naphthalene	1.57E-07	2.52E-08	5.64E-07	9.06E-08	6.84E-08	1.10E-08
Phenanthrene	---	---	---	---	---	---
Pyrene	9.26E-07	1.49E-07	1.79E-06	2.87E-07	1.01E-06	1.63E-07
Hazard Index	2.24E-06	3.65E-07	5.23E-06	8.47E-07	2.03E-06	3.31E-07

Table 7-3. Summary of Cancer Risks Associated with Shellfish Consumption Pathway for Western Bayside with and without Skeet Range Data

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Risks	
	Risk Values		Risk Values			
	RME	CTE	RME	CTE	RME	CTE
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	4.71E-07	1.05E-08	7.36E-07	1.64E-08	1.05E-07	2.33E-09
Benzo(a)pyrene	7.77E-06	1.73E-07	1.28E-05	2.85E-07	1.51E-06	3.35E-08
Benzo(b)fluoranthene	8.21E-07	1.83E-08	1.28E-06	2.85E-08	1.45E-07	3.22E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	4.77E-07	1.06E-08	7.69E-07	1.71E-08	1.52E-07	3.37E-09
Chrysene	5.31E-08	1.18E-09	8.03E-08	1.78E-09	1.71E-08	3.81E-10
Dibenzo(a,h)anthracene	2.18E-07	4.84E-09	3.25E-07	7.22E-09	3.43E-08	7.63E-10
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.69E-07	3.75E-09	2.43E-07	5.40E-09	7.21E-08	1.60E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	2.80E-08	6.21E-10	1.01E-07	2.24E-09	7.84E-09	1.74E-10
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
Total Cumulative Risk	1.00E-05	2.22E-07	1.64E-05	3.63E-07	2.04E-06	4.53E-08

Table 7-4. Summary of Non-Cancer Hazards Associated with Shellfish Consumption Pathway for Western Bayside

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Hazard	
	Hazard Quotient		Hazard Quotient			
	RME	CTE	RME	CTE	RME	CTE
Acenaphthene	2.84E-06	2.10E-07	5.06E-06	3.75E-07	4.83E-07	3.58E-08
Acenaphthylene	---	---	---	---	---	---
Anthracene	1.19E-06	8.79E-08	1.80E-06	1.33E-07	3.20E-07	2.37E-08
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	7.52E-05	5.57E-06	1.24E-04	9.21E-06	2.00E-05	1.48E-06
Fluorene	2.82E-06	2.09E-07	4.54E-06	3.37E-07	8.49E-07	6.29E-08
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	6.47E-04	4.79E-05	6.47E-04	4.79E-05	2.83E-06	2.10E-07
Naphthalene	2.72E-05	2.01E-06	9.78E-05	7.25E-06	7.62E-06	5.64E-07
Phenanthrene	---	---	---	---	---	---
Pyrene	1.68E-04	1.24E-05	3.24E-04	2.40E-05	3.19E-05	2.37E-06
Hazard Index	9.24E-04	6.84E-05	1.20E-03	8.92E-05	6.40E-05	4.74E-06

Table 7-5. Summary of Cancer Risks Associated with Fish Consumption Pathway for Western Bayside with and without Skeet Range Data

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Risks	
	Risk Values		Risk Values			
	RME(1)	CTE	RME(1)	CTE	RME(1)	CTE
Acenaphthene	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---
Anthracene	---	---	---	---	---	---
Benzo(a)anthracene	1.27E-07	3.15E-09	1.98E-07	4.92E-09	9.91E-08	2.46E-09
Benzo(a)pyrene	1.70E-06	4.22E-08	2.81E-06	6.97E-08	4.40E-07	1.09E-08
Benzo(b)fluoranthene	1.74E-07	4.32E-09	2.72E-07	6.74E-09	2.39E-07	5.94E-09
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	2.06E-07	5.12E-09	3.32E-07	8.25E-09	3.66E-08	9.09E-10
Chrysene	3.72E-08	9.23E-10	5.61E-08	1.39E-09	4.60E-08	1.14E-09
Dibenzo(a,h)anthracene	8.04E-08	2.00E-09	1.20E-07	2.98E-09	1.05E-07	2.60E-09
Fluoranthene	---	---	---	---	---	---
Fluorene	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	1.28E-07	3.17E-09	1.84E-07	4.57E-09	8.80E-08	2.18E-09
2-Methylnaphthalene	---	---	---	---	---	---
Naphthalene	1.14E-08	2.83E-10	4.11E-08	1.02E-09	2.11E-07	5.24E-09
Phenanthrene	---	---	---	---	---	---
Pyrene	---	---	---	---	---	---
Total Cumulative Risk	2.47E-06	6.12E-08	4.01E-06	9.95E-08	1.26E-06	3.14E-08

(1) RME risk is age-adjusted cancer risk

Table 7-6. Summary of Non-Cancer Hazards Associated with Fish Consumption Pathway for Western Bayside

Chemical	WBS - All Years Surface		WBS with Skeet Range - All Years Surface		Reference Hazard	
	Hazard Quotient		Hazard Quotient			
	RME	CTE	RME	CTE	RME	CTE
Acenaphthene	2.52E-05	1.87E-06	4.50E-05	3.33E-06	7.86E-05	5.82E-06
Acenaphthylene	---	---	---	---	---	---
Anthracene	1.50E-06	1.11E-07	2.28E-06	1.69E-07	3.18E-06	2.35E-07
Benzo(a)anthracene	---	---	---	---	---	---
Benzo(a)pyrene	---	---	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---	---	---
Benzo(k)fluoranthene	---	---	---	---	---	---
Chrysene	---	---	---	---	---	---
Dibenzo(a,h)anthracene	---	---	---	---	---	---
Fluoranthene	4.49E-05	3.32E-06	7.41E-05	5.49E-06	1.77E-04	1.31E-05
Fluorene	1.79E-05	1.33E-06	2.88E-05	2.14E-06	1.29E-04	9.53E-06
Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
2-Methylnaphthalene	1.32E-05	9.81E-07	6.73E-05	4.99E-06	5.32E-04	3.94E-05
Naphthalene	1.24E-05	9.18E-07	4.46E-05	3.30E-06	2.29E-04	1.70E-05
Phenanthrene	---	---	---	---	---	---
Pyrene	3.41E-05	2.53E-06	6.59E-05	4.88E-06	5.72E-05	4.23E-06
Hazard Index	1.49E-04	1.11E-05	3.28E-04	2.43E-05	1.21E-03	8.94E-05

Table 8-1. Summary of Risk Assessment Conclusions for Western Bayside

Assessment Endpoint	Summary of Risk Characterization	Conclusions
HUMAN HEALTH RISK ASSESSMENT		
Direct Contact	• HQ's all below one. • Cancer risks were either below 10^{-6} or less than reference conditions.	No unacceptable risks associated with direct contact exposures.
Adult – shellfish ingestion	• HQ's all below one. • Cancer risks were either below 10-6 or comparable to reference conditions.	No unacceptable risks associated with shellfish ingestion exposures.
Adult – finfish ingestion	• HQ's all below one. • Cancer risks were either below 10-6 or comparable to reference conditions.	No unacceptable risks associated with fish ingestion exposures.
ECOLOGICAL RISK ASSESSMENT		
Benthic Invertebrate Community AE(1)	• Limited toxicity observed in the 1993/94 bioassays likely associated with grain size or other confounding factors. • Based on 2005 results, all sediment concentrations below ER-M and ambient concentrations.	No unacceptable risk posed to AE(1) at Western Bayside
Fish Community AE(2)	• None of the modeled fish tissue concentrations exceeded the NOAEL or LOAEL ERV for any constituent.	No unacceptable risk posed to AE(2) at Western Bayside
Avian Community AE(3) – surf scoter	• No exceedances of both low TRV and ambient concentrations.	No unacceptable risk posed to AE(3) at Western Bayside
Avian Community AE(3) – least tern	• Total 4,4-DDx was the only chemical with low TRV exceedances. • There were no exceedances of the high TRV. • Risks were lower than or comparable to ambient in the 2005 data set.	
Avian Community AE(3) – double-crested cormorant	• No exceedances of both low TRV and ambient concentrations.	

Table 8-2. Summary of Risk Assessment Conclusions for Breakwater Beach

Assessment Endpoint	Summary of Risk Characterization	Conclusions
	HUMAN HEALTH RISK ASSESSMENT	
Direct Contact	• HQ's all below one. • Cancer risks were either below 10-6 or less than reference conditions.	No unacceptable risks associated with direct contact exposures.
Adult – shellfish ingestion	• HQ's all below one or similar to reference conditions. • Cancer risks were either below 10-6 or comparable to reference conditions.	No unacceptable risks associated with shellfish ingestion exposures.
Adult – finfish ingestion	• HQ's all below one or less than reference conditions. • Cancer risks were either below 10-6 or comparable to reference conditions.	No unacceptable risks associated with fish ingestion exposures.
	ECOLOGICAL RISK ASSESSMENT	
Benthic Invertebrate Community AE(1)	• Significant amphipod toxicity observed in 1998 due to confounding factors associated with the methods, particularly given that the reference stations also exhibited significant toxicity and other bioassays did not demonstrate significant toxicity. • Amphipod bioassays in 2002 did not replicate toxicity observed in 1998. • Based on historical results, most sediment concentrations were below ER-M and all were below ambient concentrations.	No unacceptable risk posed to AE(1) at Breakwater Beach
Fish Community AE(2)	• None of the modeled fish tissue concentrations exceeded the NOAEL or LOAEL ERV for any constituent.	No unacceptable risk posed to AE(2) at Breakwater Beach
Avian Community AE(3) – surf scoter	• Cr, Pb, and Se were the only chemicals with low TRV exceedances that were also greater than ambient. • No exceedance of high TRVs. • For Cr, no exceedance of low TRV at realistic SUFs • For Pb and Se, risks appear comparable to ambient.	No unacceptable risk posed to AE(3) at Breakwater Beach
Avian Community AE(3) – least tern	• Pb, Hg, Se, PCB, and 4,4-DDx were the only chemicals with low TRV exceedances. • No exceedance of high TRVs. • For PCB and DDx, no exceedance of low TRV at realistic SUFs. • For Pb, Hg, and Se, risks appear comparable to ambient.	
Avian Community AE(3) – double-crested cormorant	• No exceedance of high TRVs. • Pb was the only chemical with low TRV exceedances, however, the risks are comparable with ambient.	

APPENDIX A

SUMMARY OF ANALYTICAL DATA

This appendix contains supporting data for Western Bayside and Breakwater Beach. This appendix is organized in the following way:

Section A.1: Western Bayside and Breakwater Beach Box and Bubble Plots
Section A.2: Western Bayside and Breakwater Beach Summary of Analytical Data

A.1 Western Bayside and Breakwater Beach Box and Bubble Plots

List of Figures

Western Bayside Box and Bubble Plots

Western Bayside Box and Bubble Plots

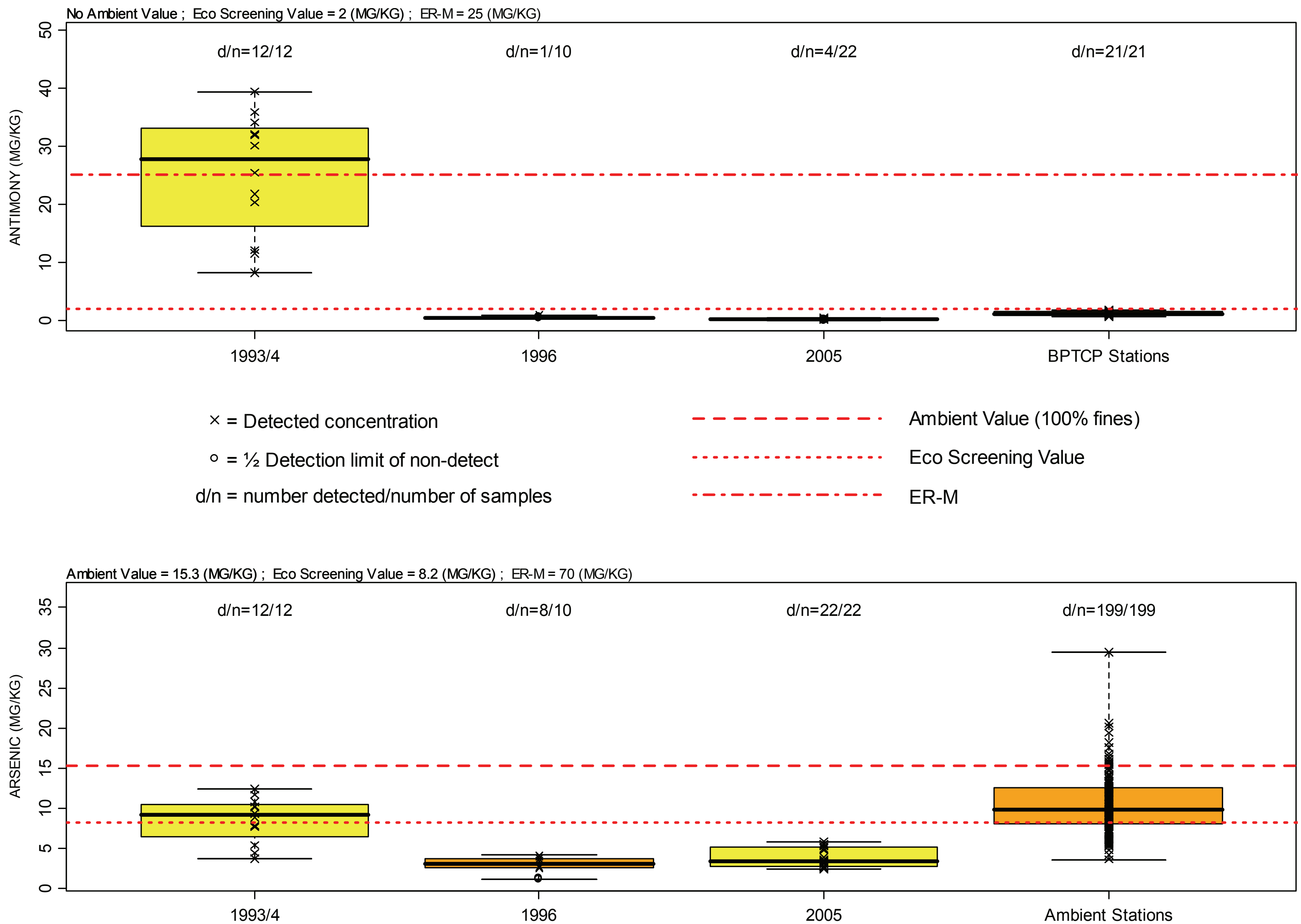


Figure A-1. Box Plots of Antimony and Arsenic in Western Bayside Surface Sediment by Year.

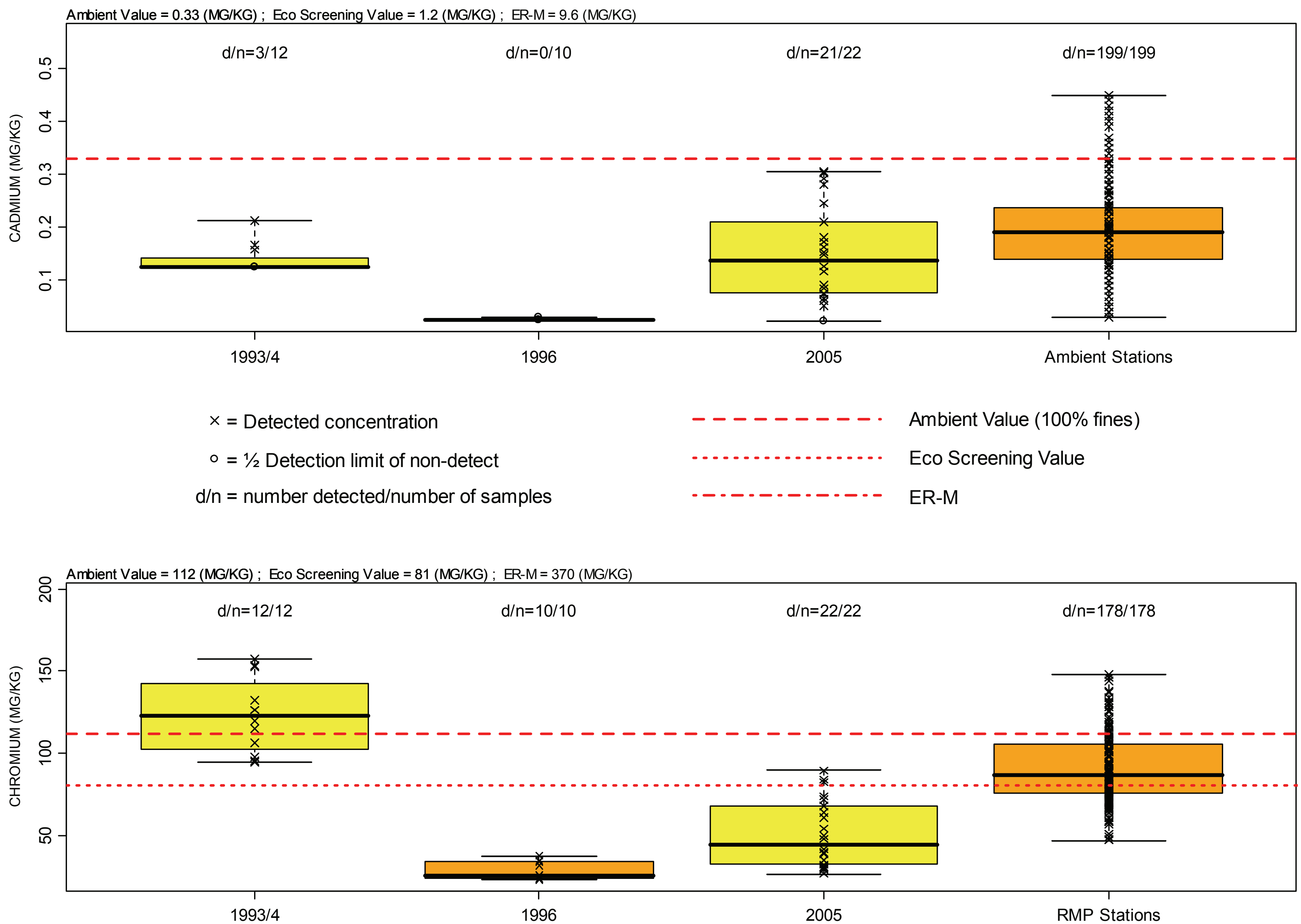


Figure A–2. Box Plots of Cadmium and Chromium in Western Bayside Surface Sediment by Year.

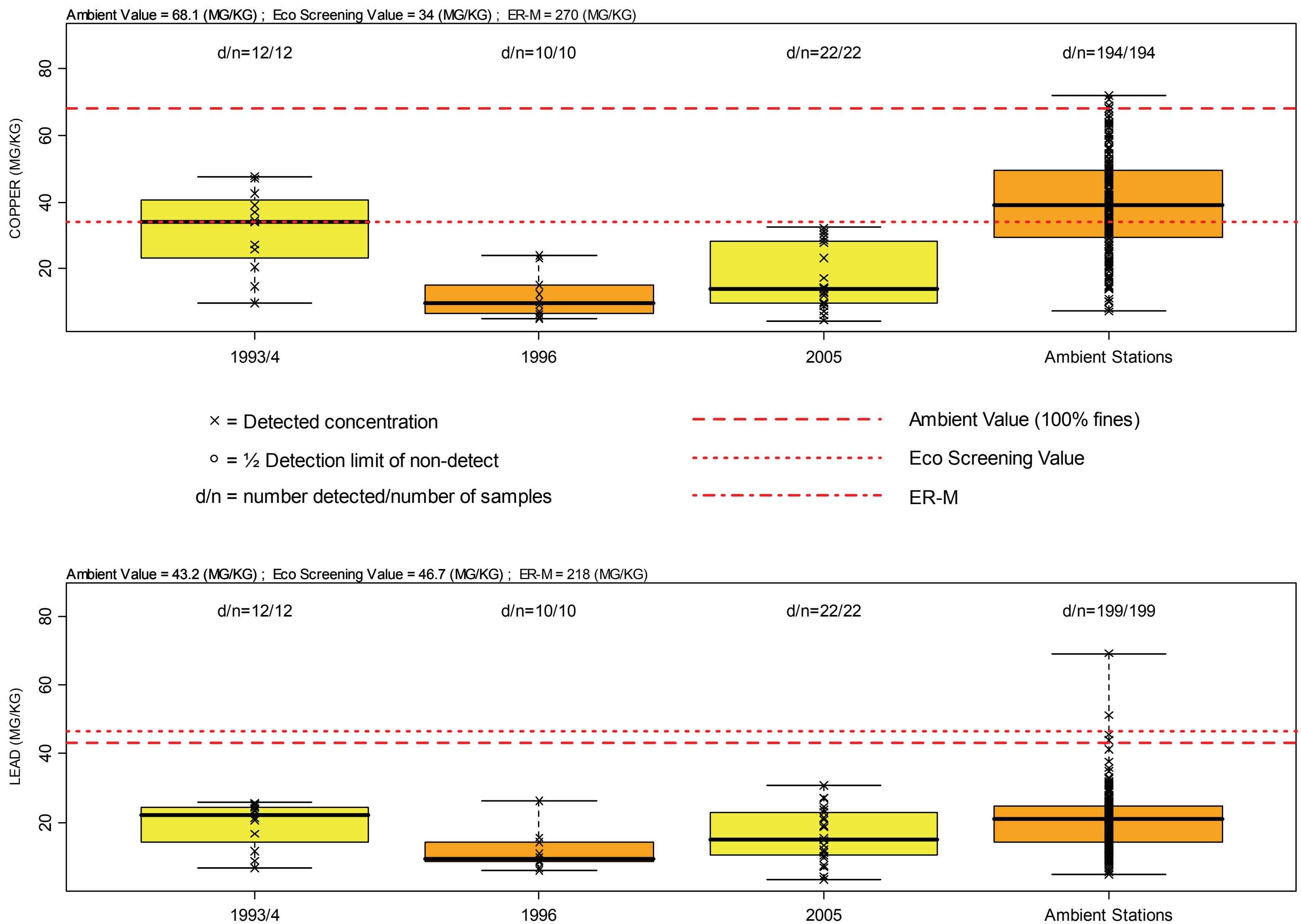


Figure A–3. Box Plots of Copper and Lead in Western Bayside Surface Sediment by Year.

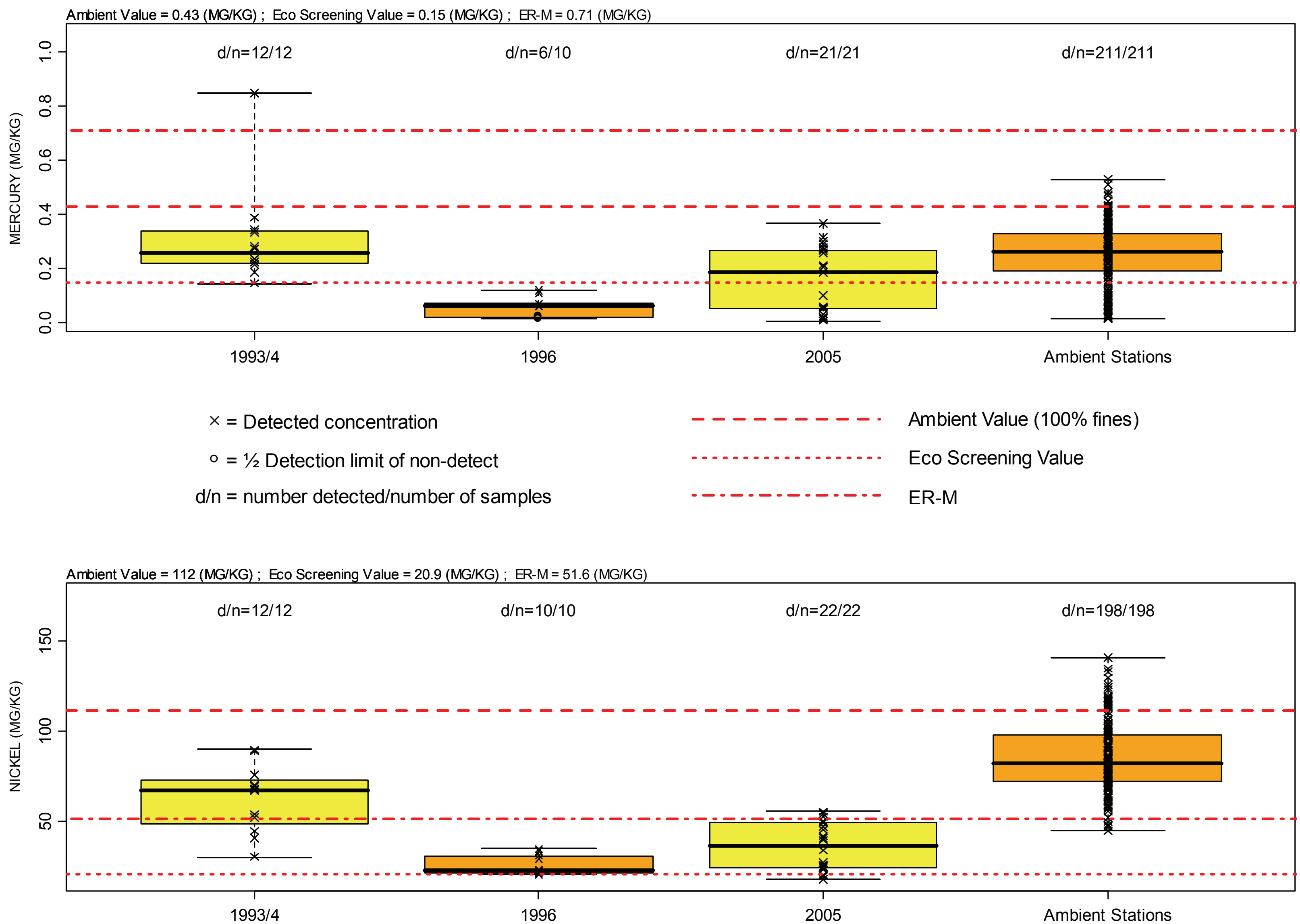


Figure A–4. Box Plots of Mercury and Nickel in Western Bayside Surface Sediment by Year.

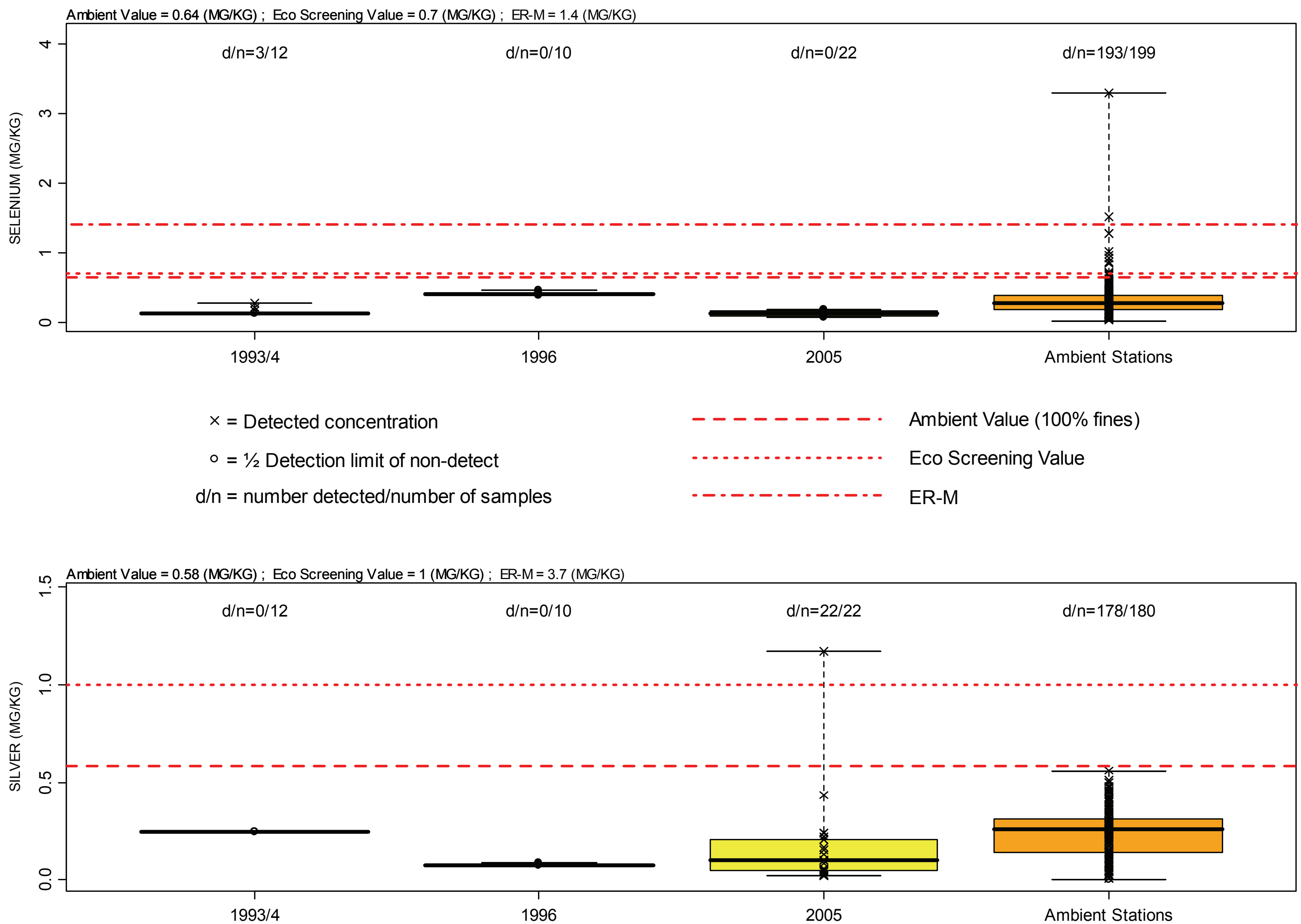


Figure A–5. Box Plots of Selenium and Silver in Western Bayside Surface Sediment by Year.

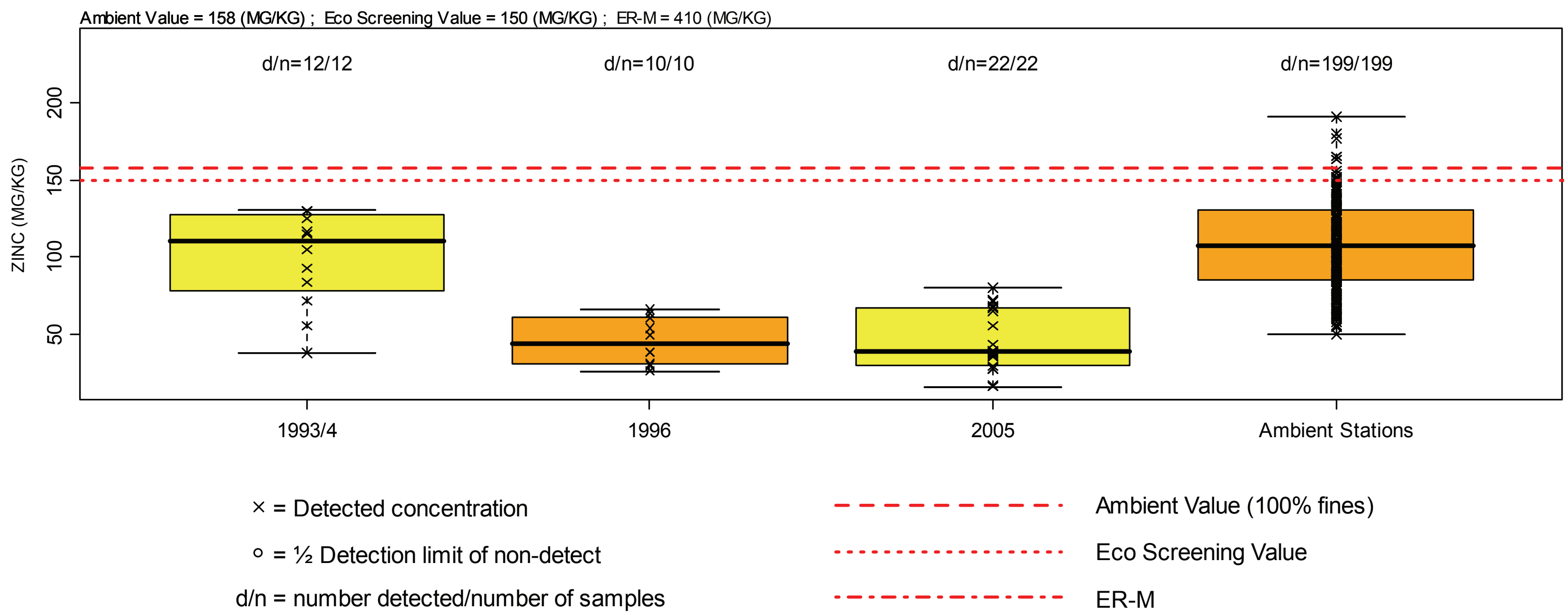


Figure A–6. Box Plots of Zinc in Western Bayside Surface Sediment by Year.

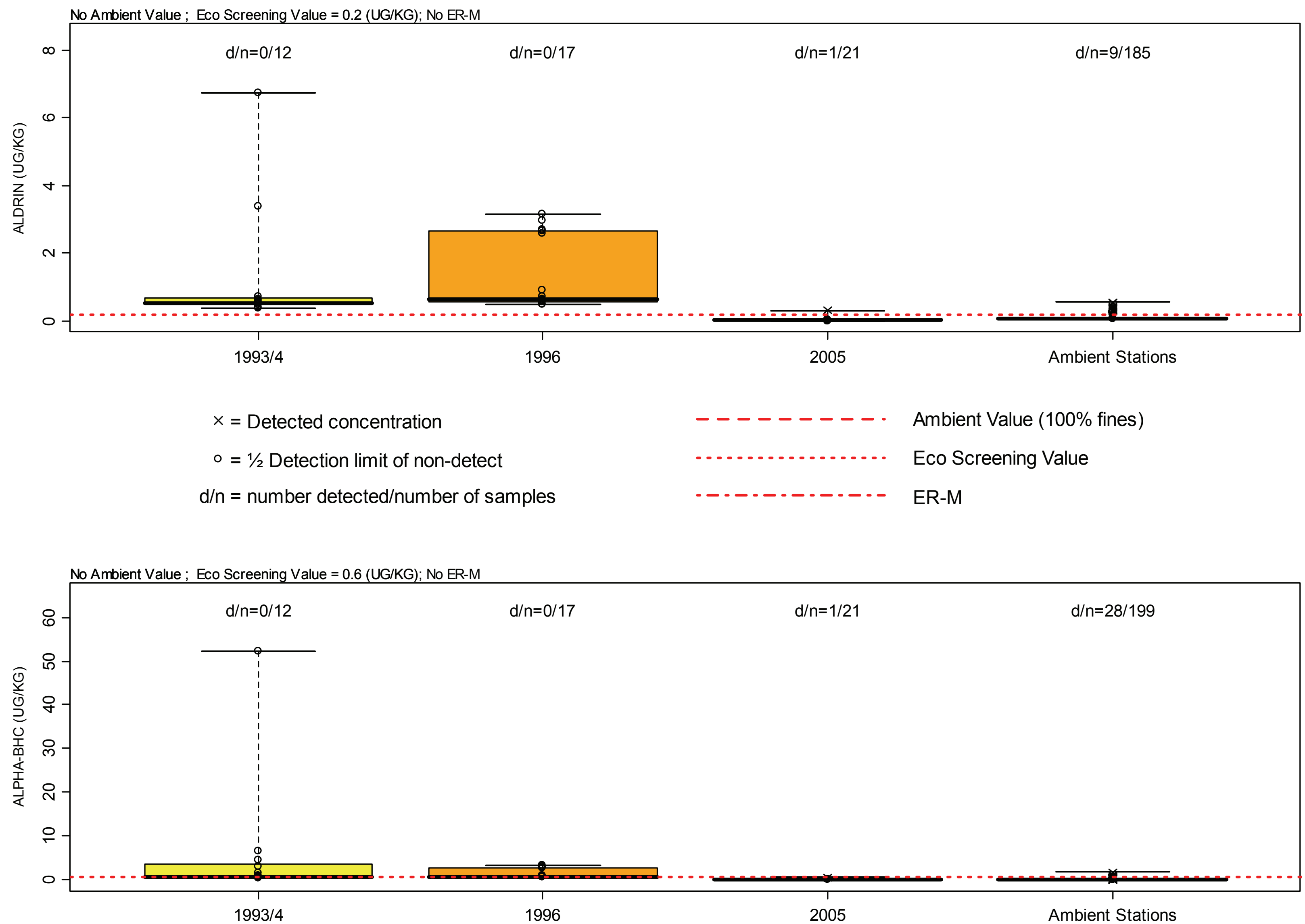


Figure A–7. Box Plots of Aldrin and *alpha*-BHC in Western Bayside Surface Sediment by Year.

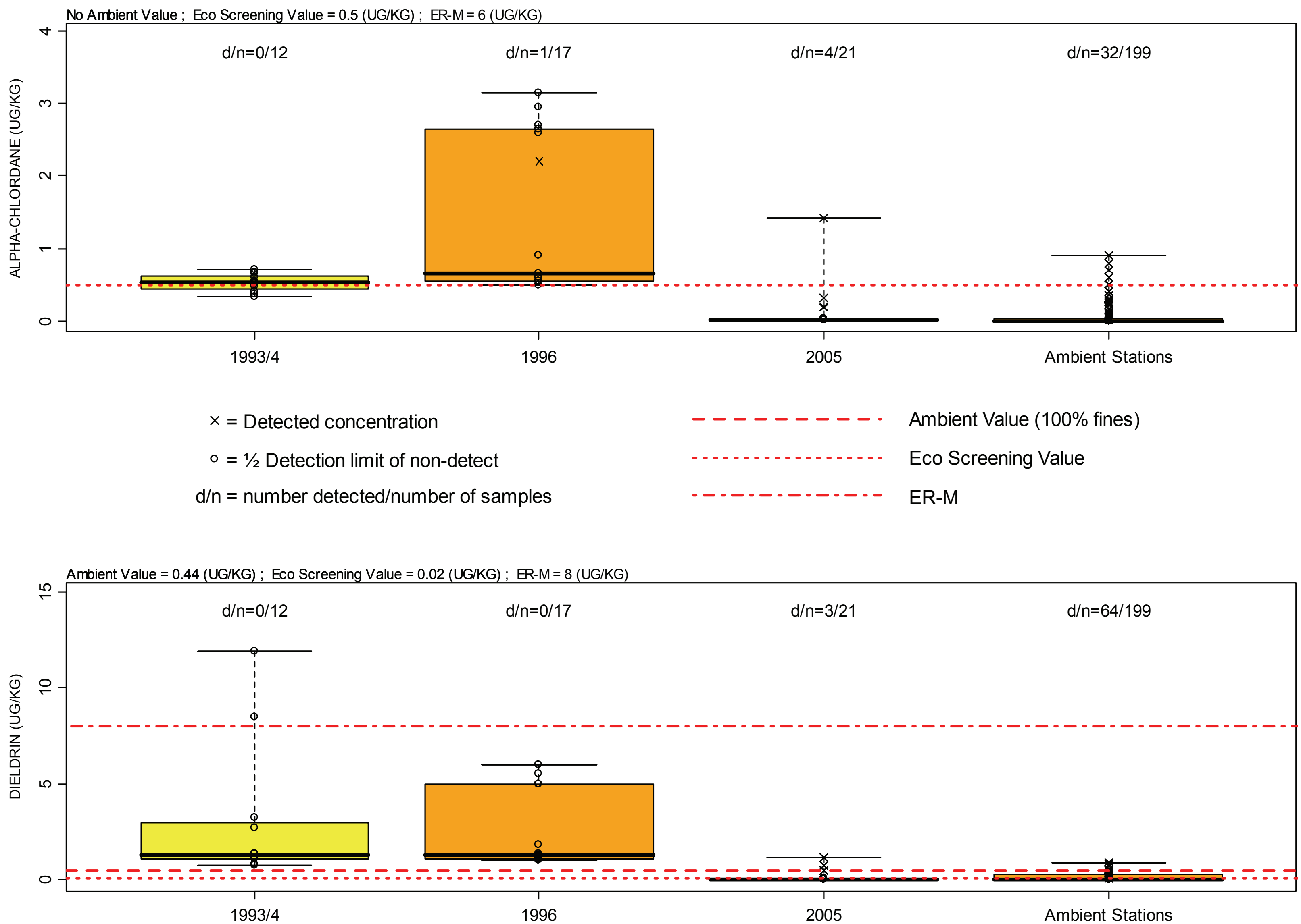


Figure A–8. Box Plots of *alpha*-Chlordane and Dieldrin in Western Bayside Surface Sediment by Year.

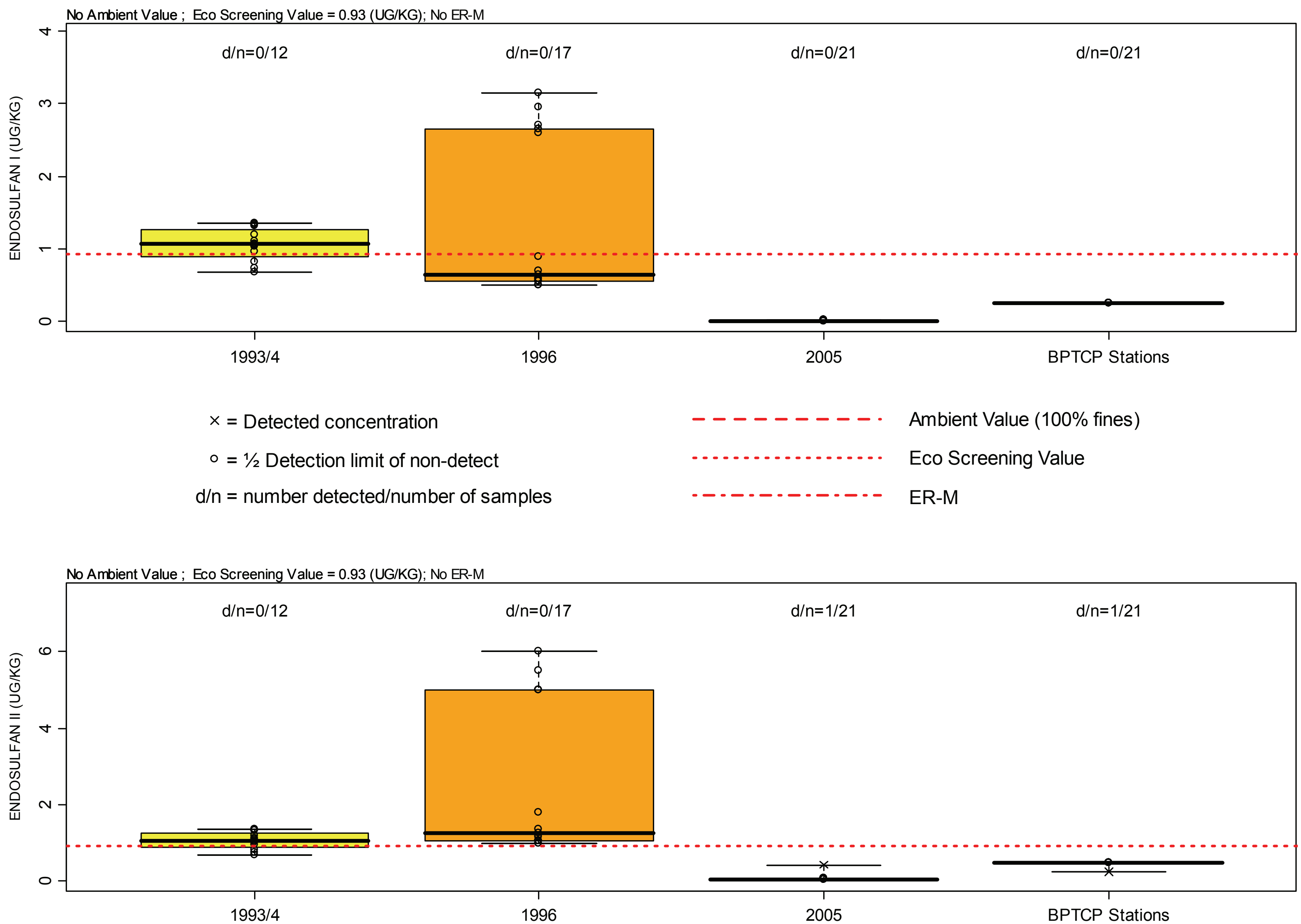


Figure A–9. Box Plots of Endosulfan I and Endosulfan II in Western Bayside Surface Sediment by Year.

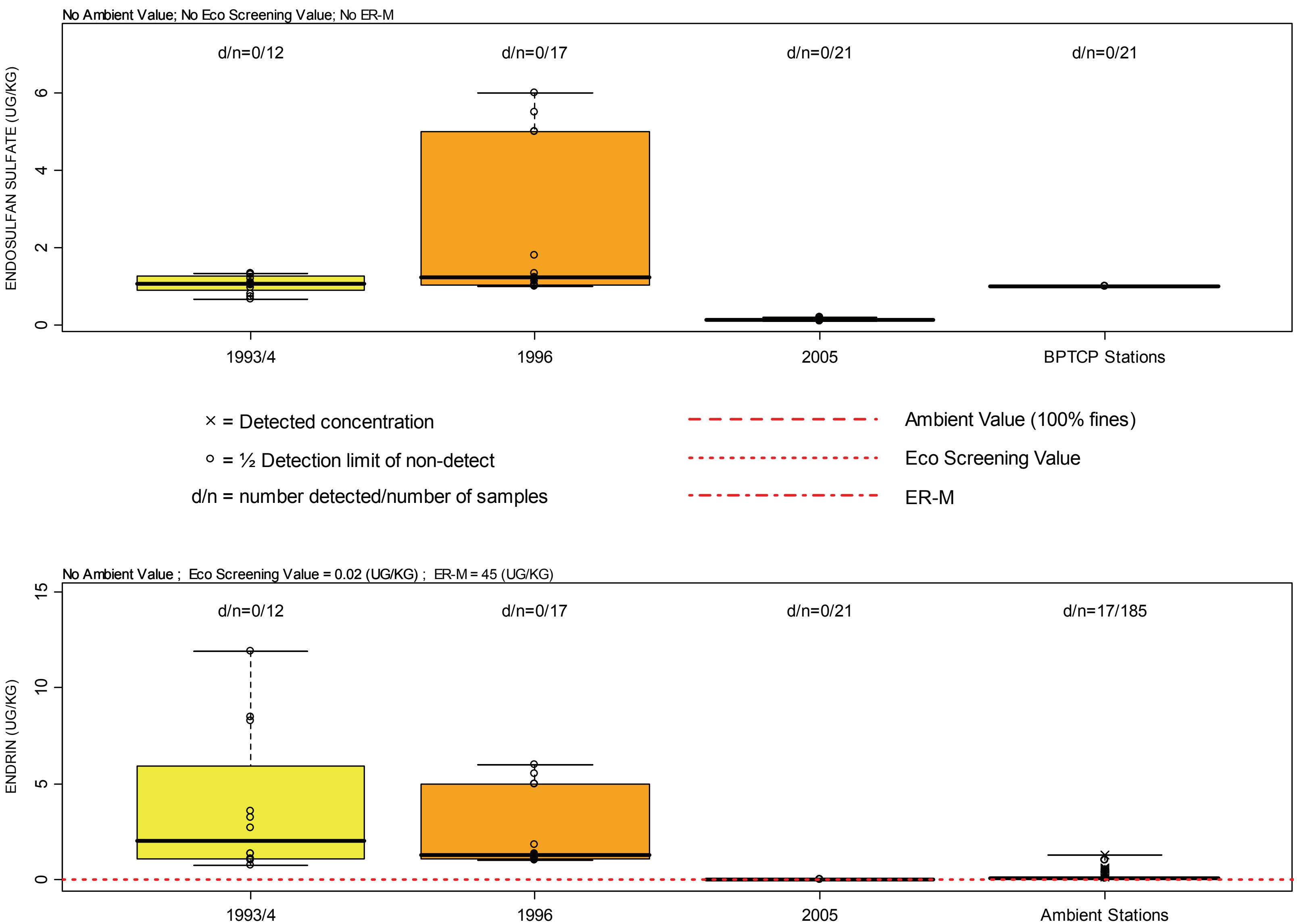


Figure A–10. Box Plots of Endosulfan Sulfate and Endrin in Western Bayside Surface Sediment by Year.

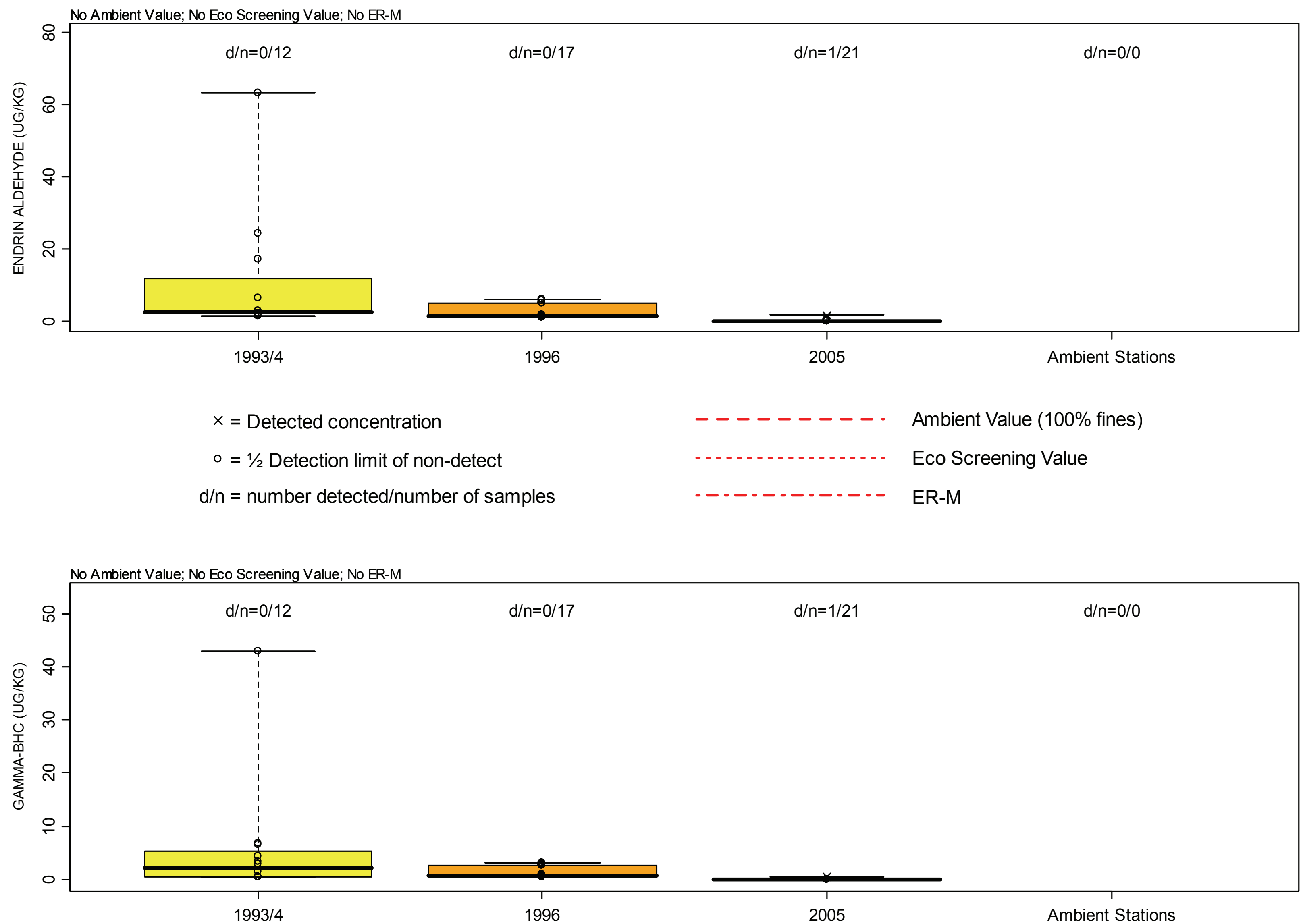


Figure A–11. Box Plots of Endrin Aldehyde and *gamma*-BHC in Western Bayside Surface Sediment by Year.

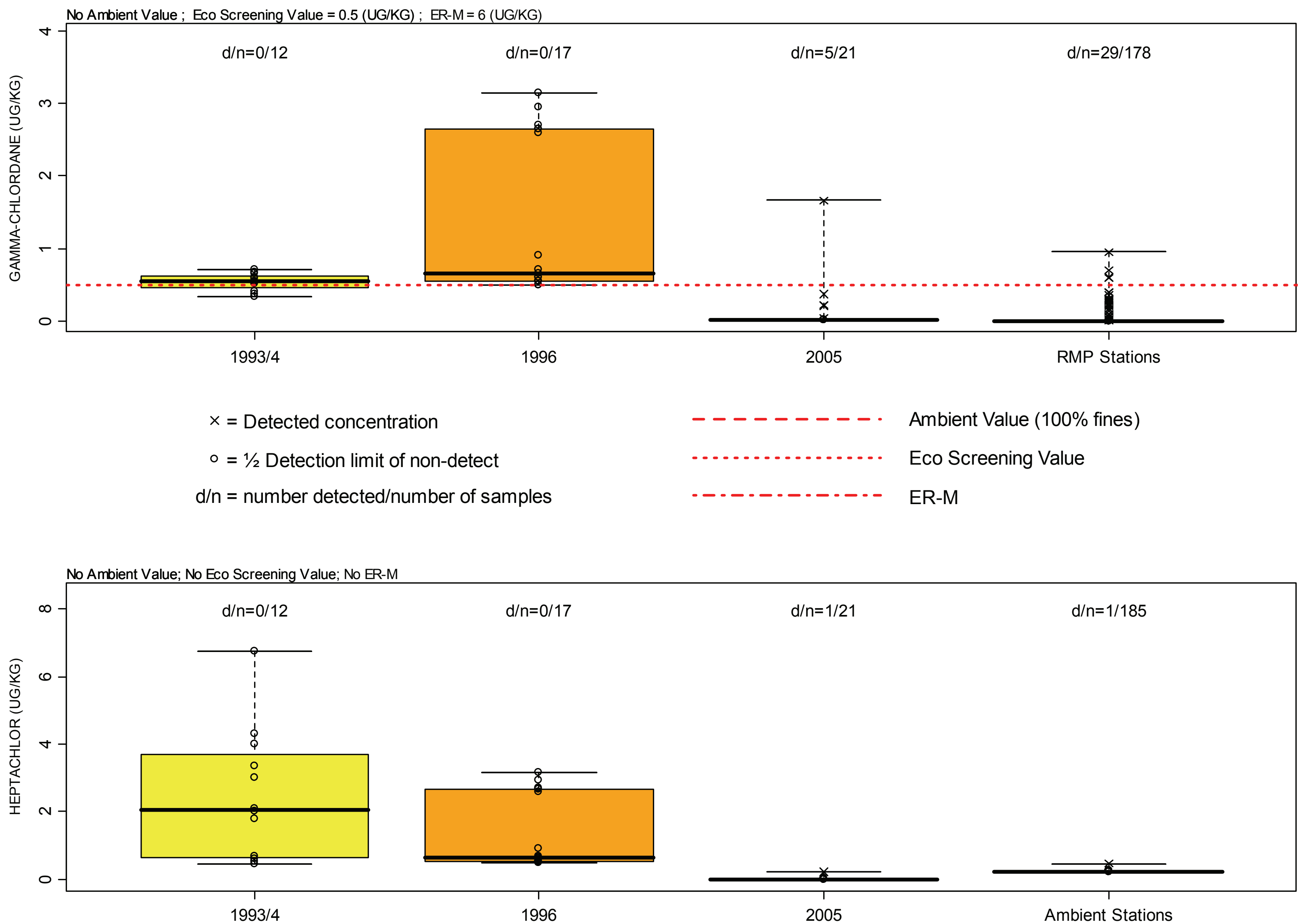


Figure A–12. Box Plots of *gamma*-Chlordane and Heptachlor in Western Bayside Surface Sediment by Year.

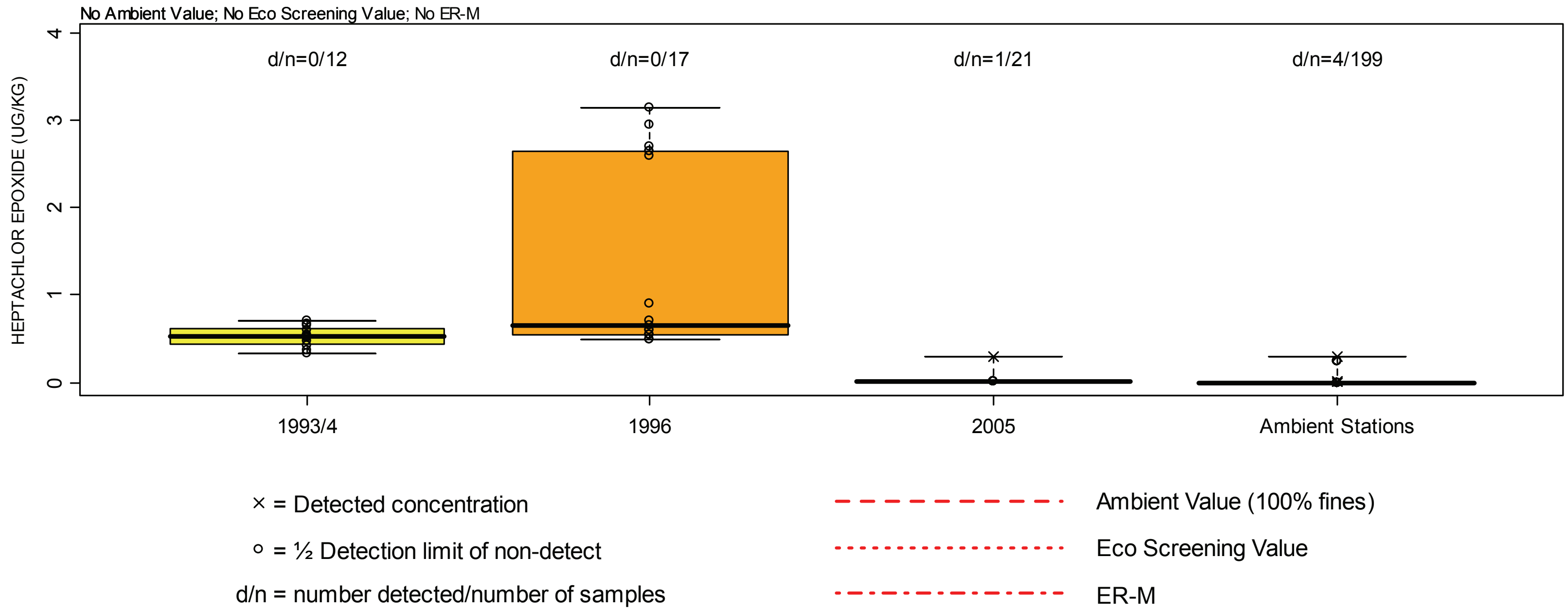
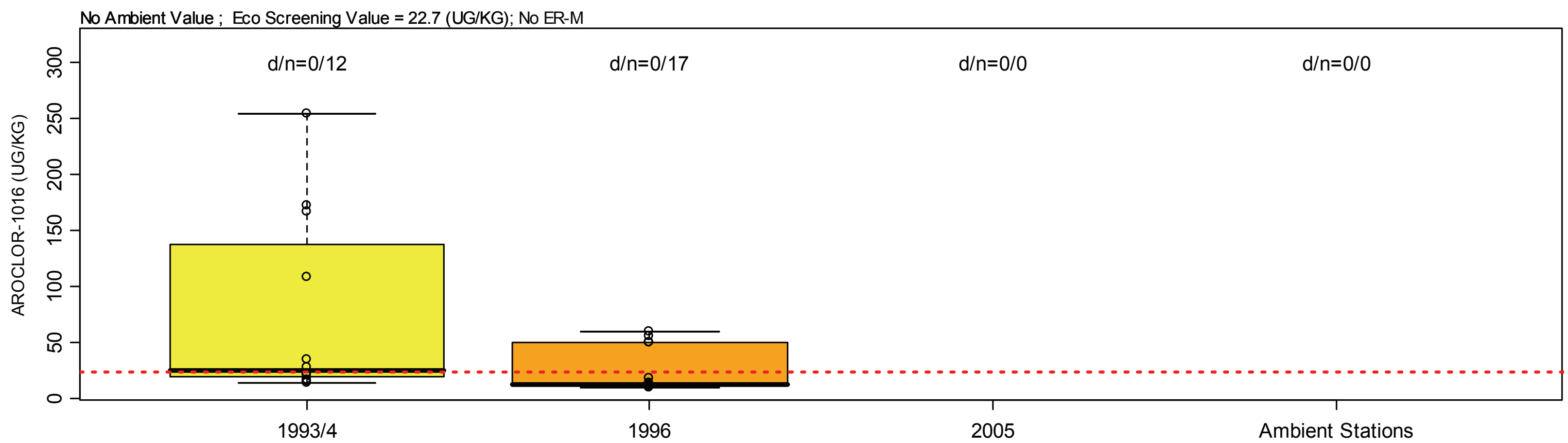


Figure A–13. Box Plots of Heptachlor Epoxide in Western Bayside Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

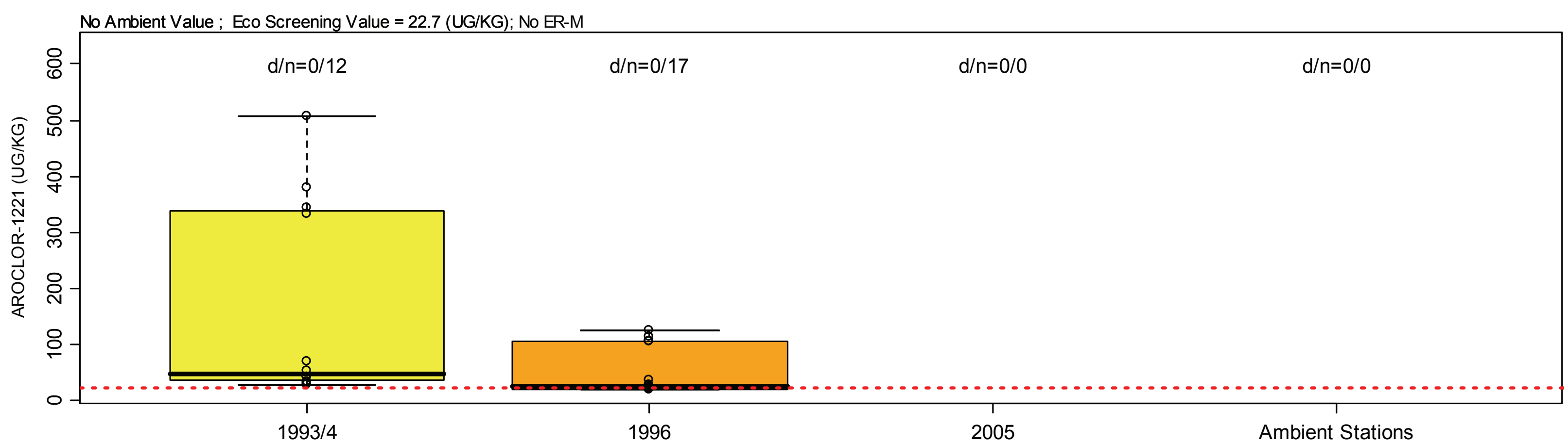


Figure A–14. Box Plots of Aroclor-1016 and Aroclor-1221 in Western Bayside Surface Sediment by Year.

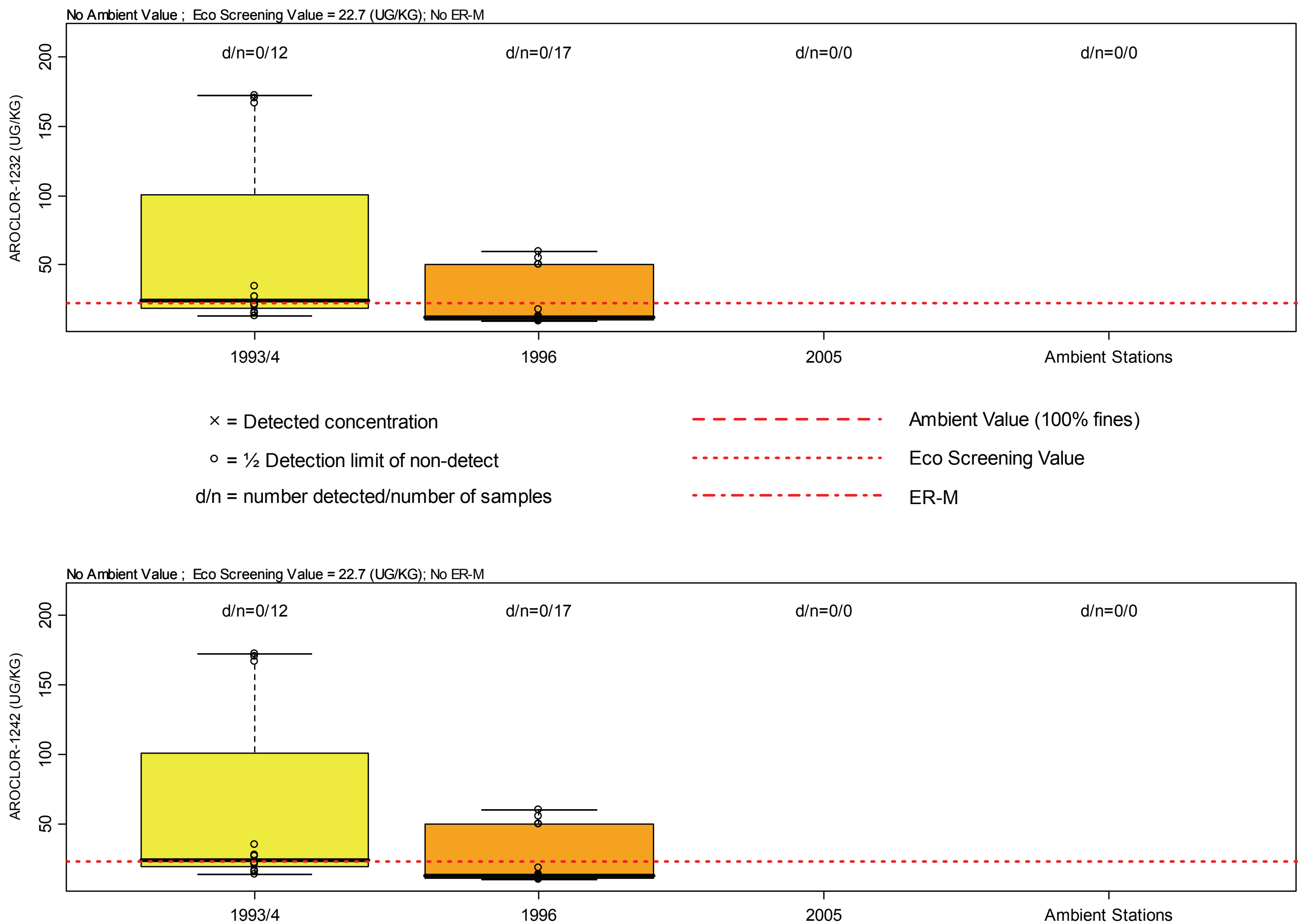


Figure A–15. Box Plots of Aroclor-1232 and Aroclor-1242 in Western Bayside Surface Sediment by Year.

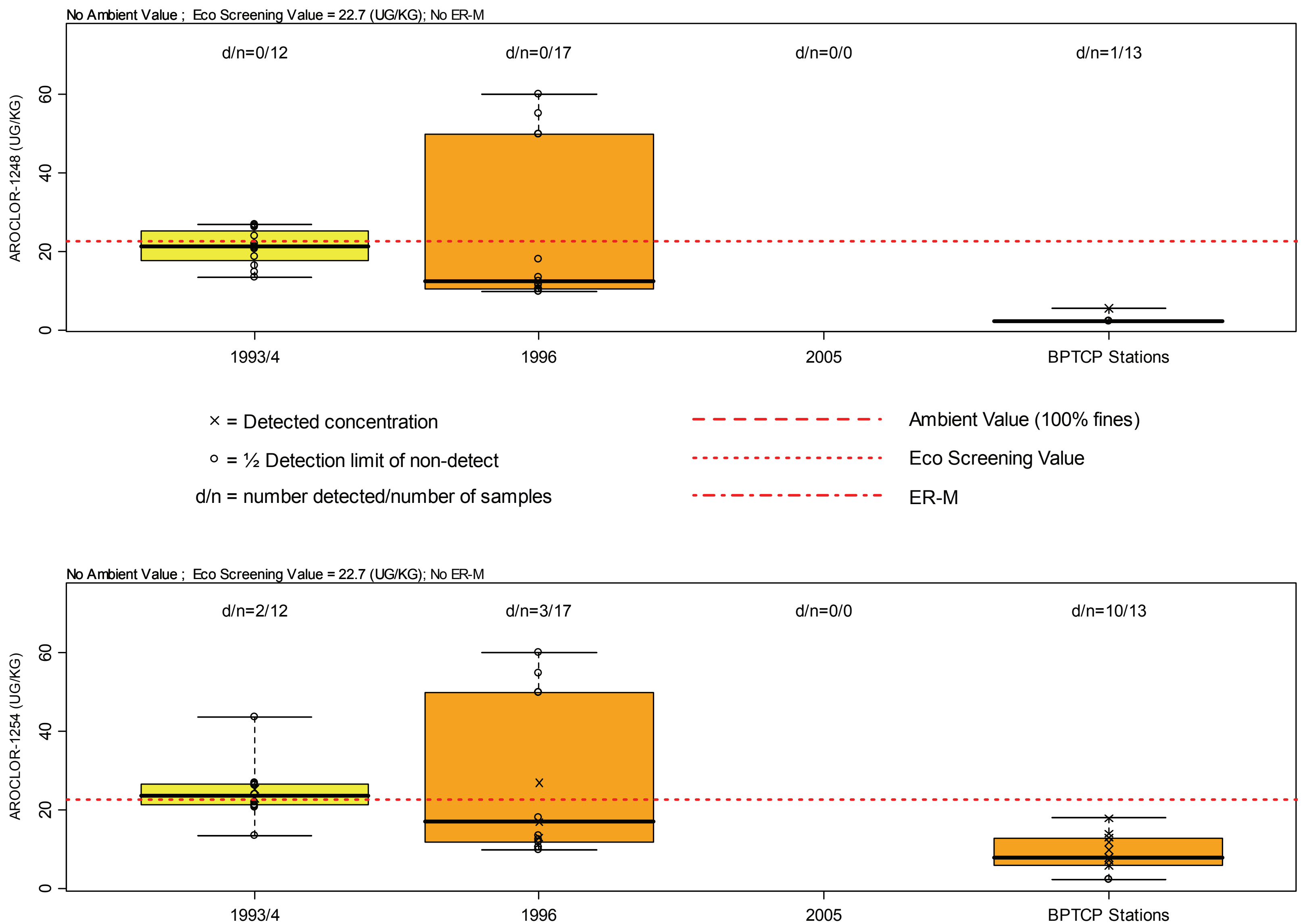


Figure A–16. Box Plots of Aroclor-1248 and Aroclor-1254 in Western Bayside Surface Sediment by Year.

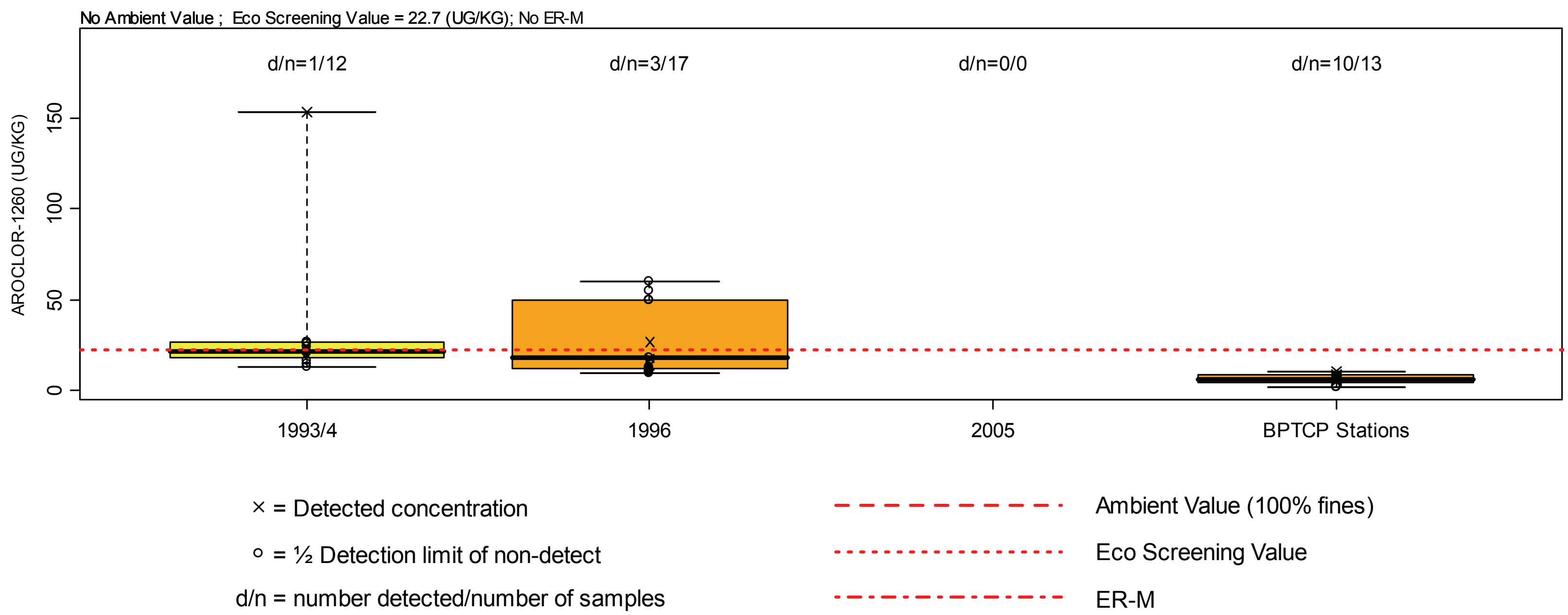


Figure A–17. Box Plots of Aroclor-1260 in Western Bayside Surface Sediment by Year.

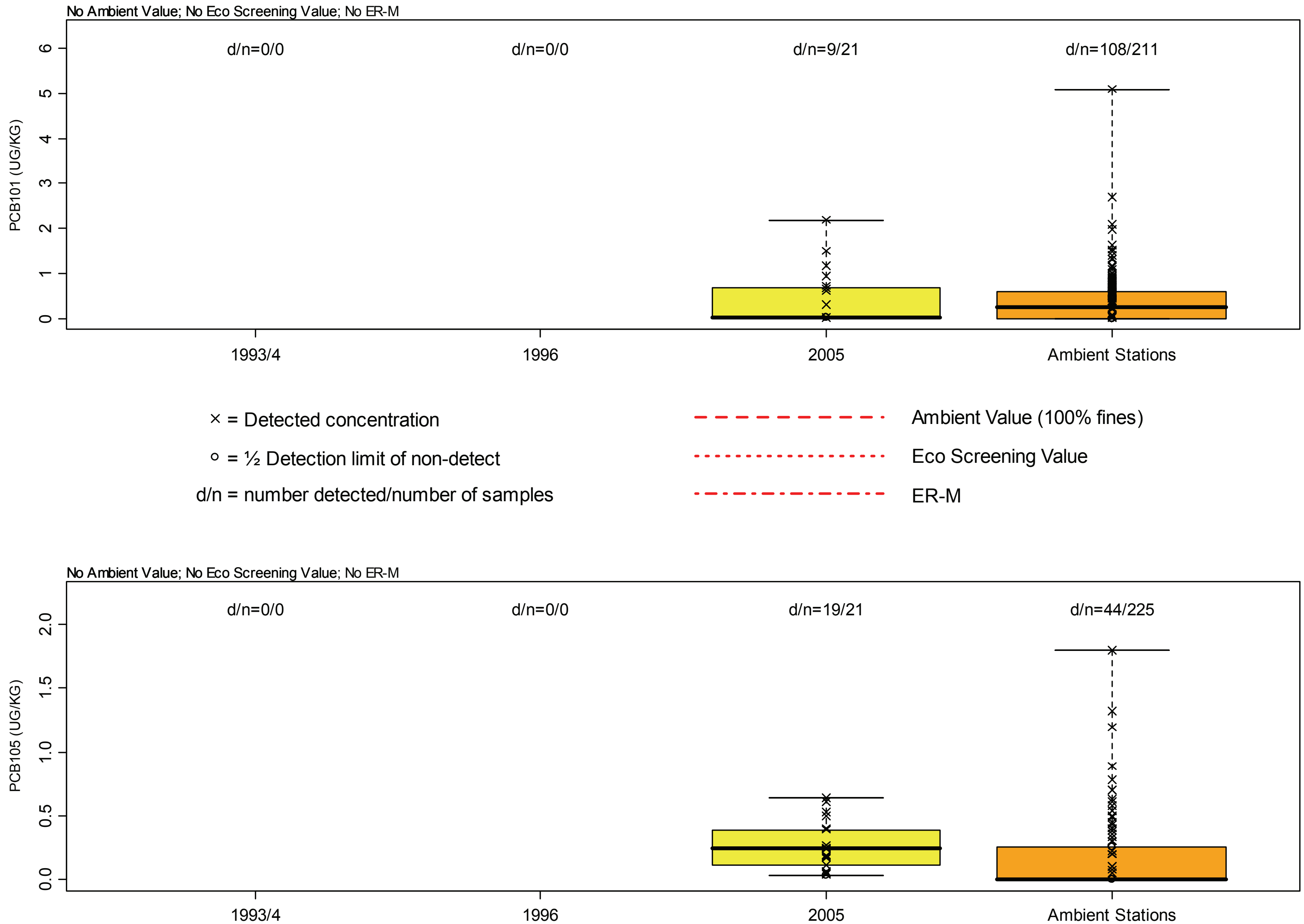


Figure A–18. Box Plots of PCB101 and PCB105 in Western Bayside Surface Sediment by Year.

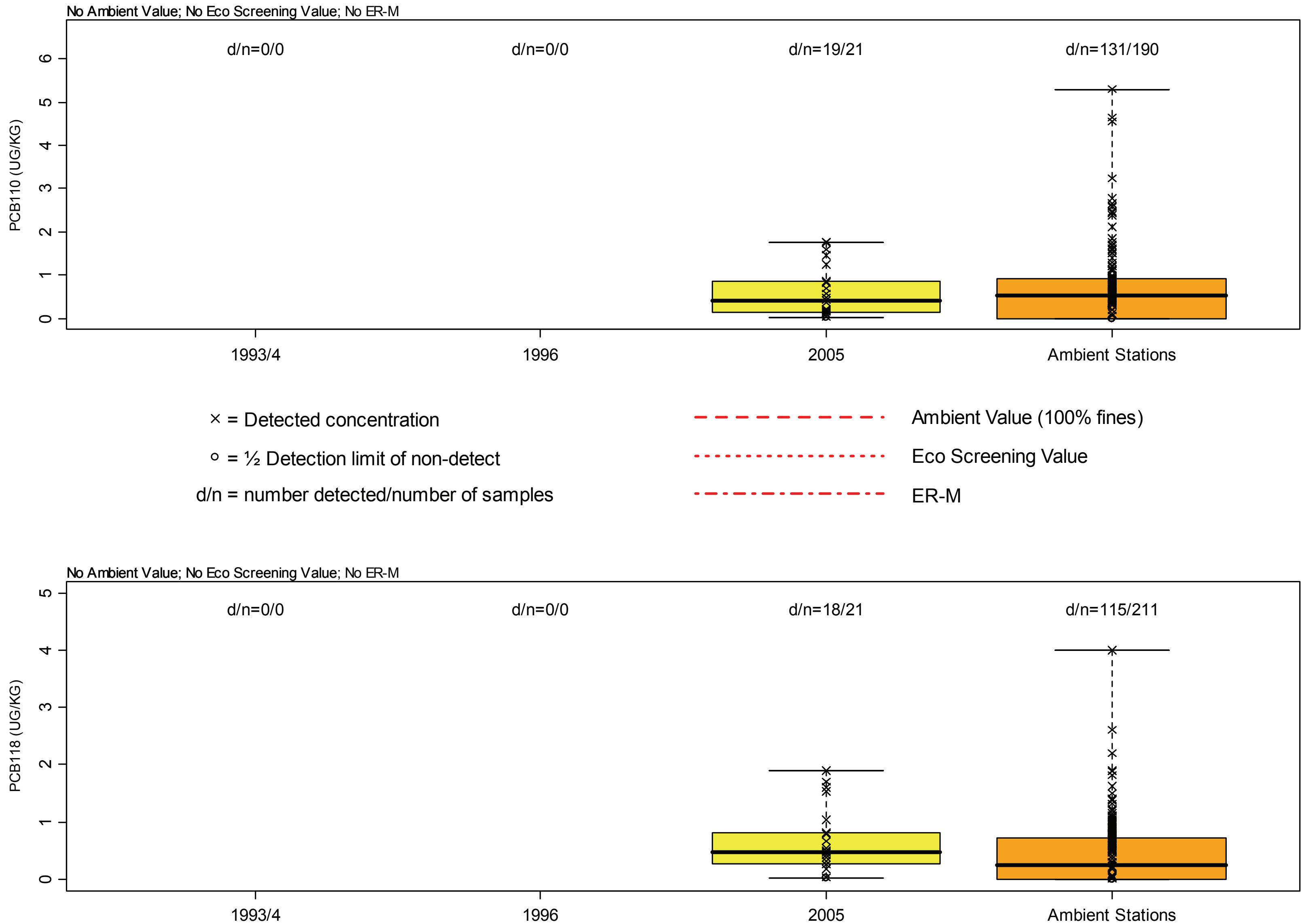


Figure A–19. Box Plots of PCB110 and PCB118 in Western Bayside Surface Sediment by Year.

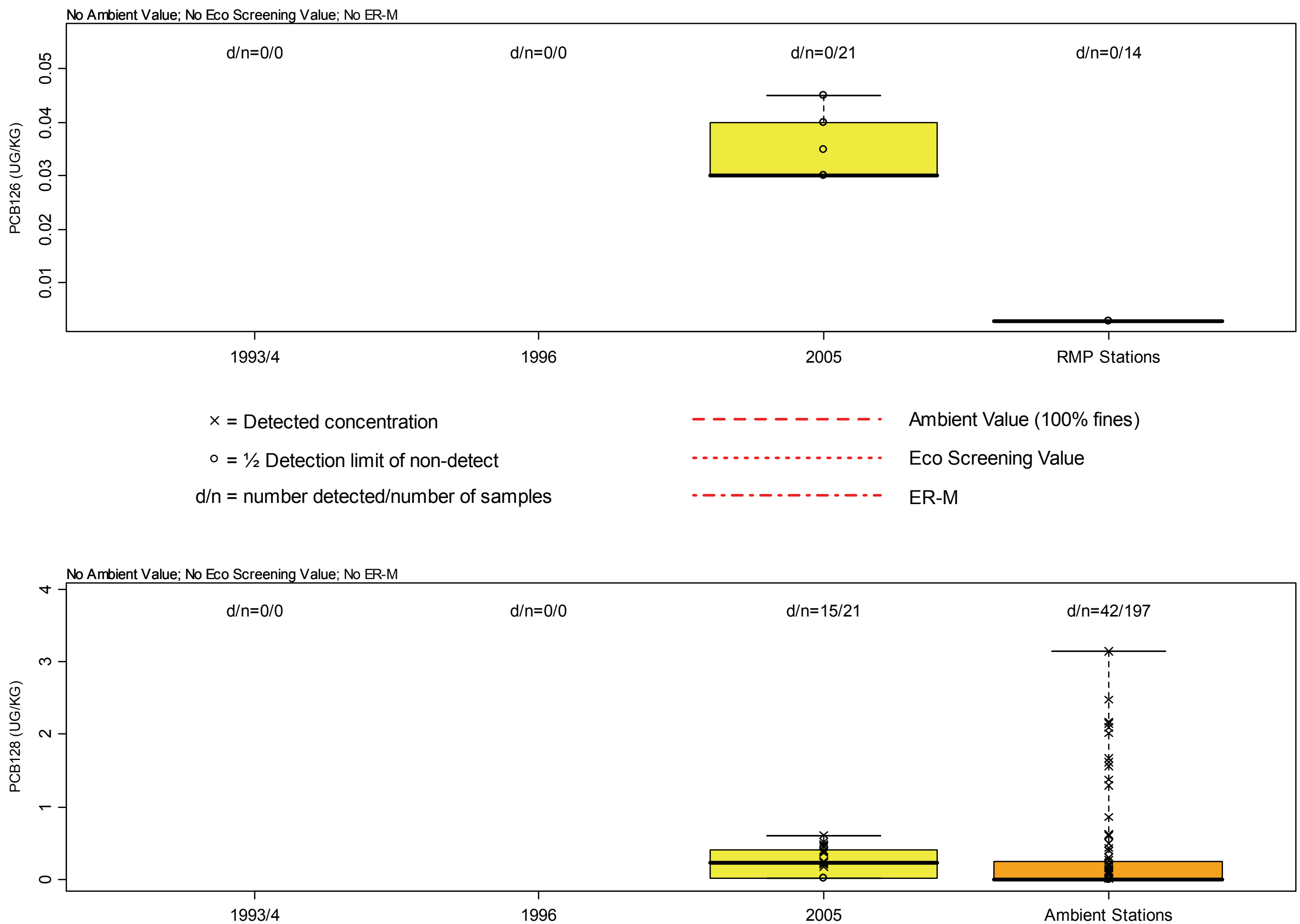
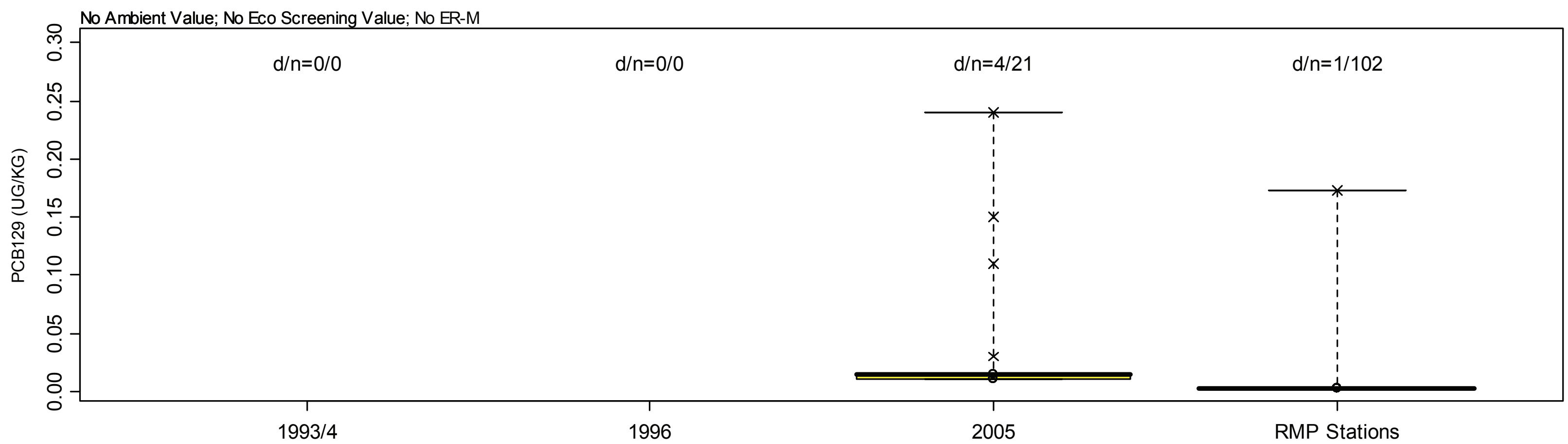


Figure A–20. Box Plots of PCB126 and PCB128 in Western Bayside Surface Sediment by Year.



× = Detected concentration

o = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

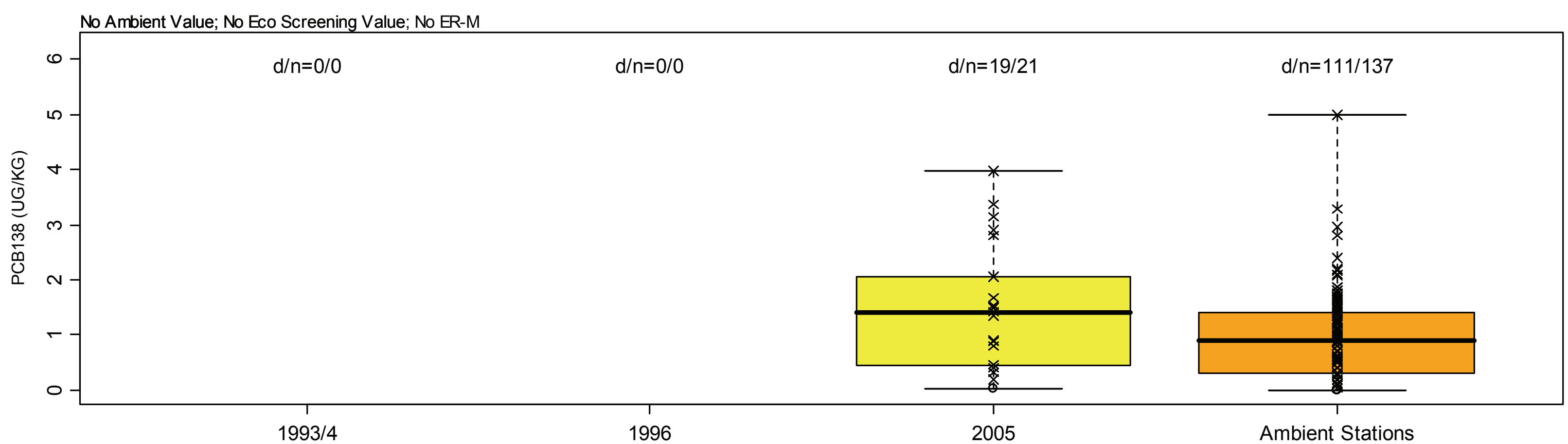


Figure A–21. Box Plots of PCB129 and PCB138 in Western Bayside Surface Sediment by Year.

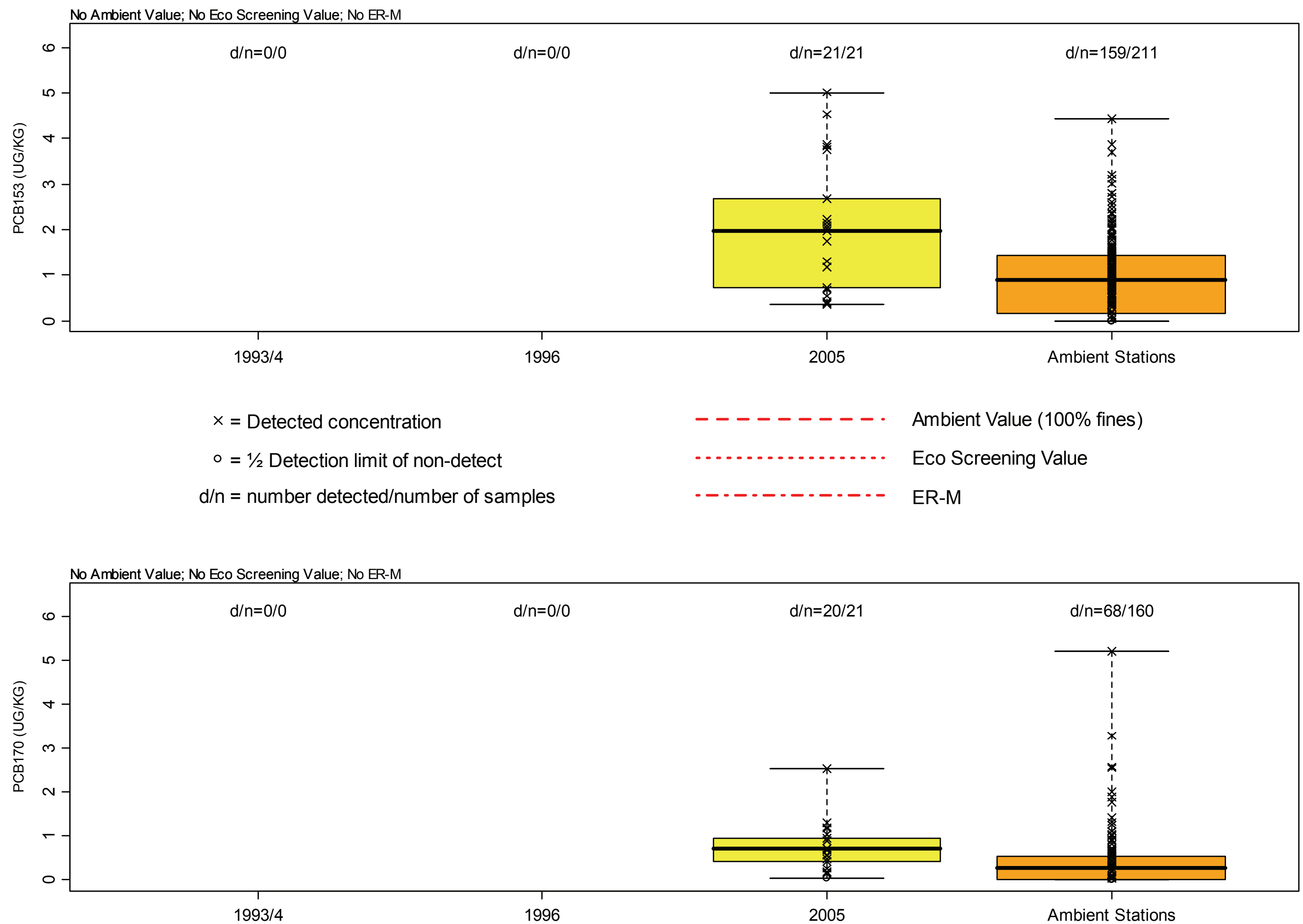


Figure A–22. Box Plots of PCB153 and PCB170 in Western Bayside Surface Sediment by Year.

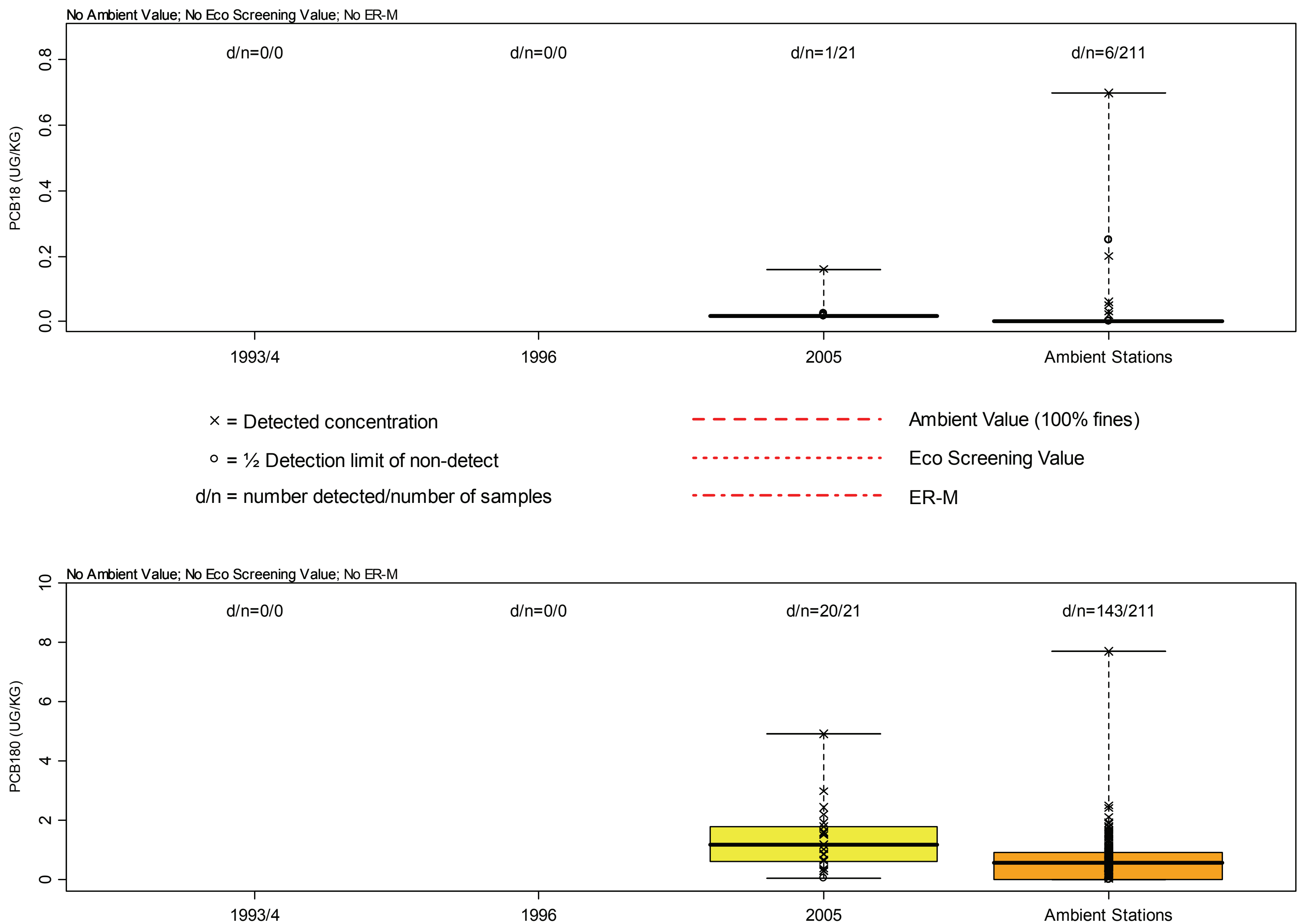


Figure A–23. Box Plots of PCB18 and PCB180 in Western Bayside Surface Sediment by Year.

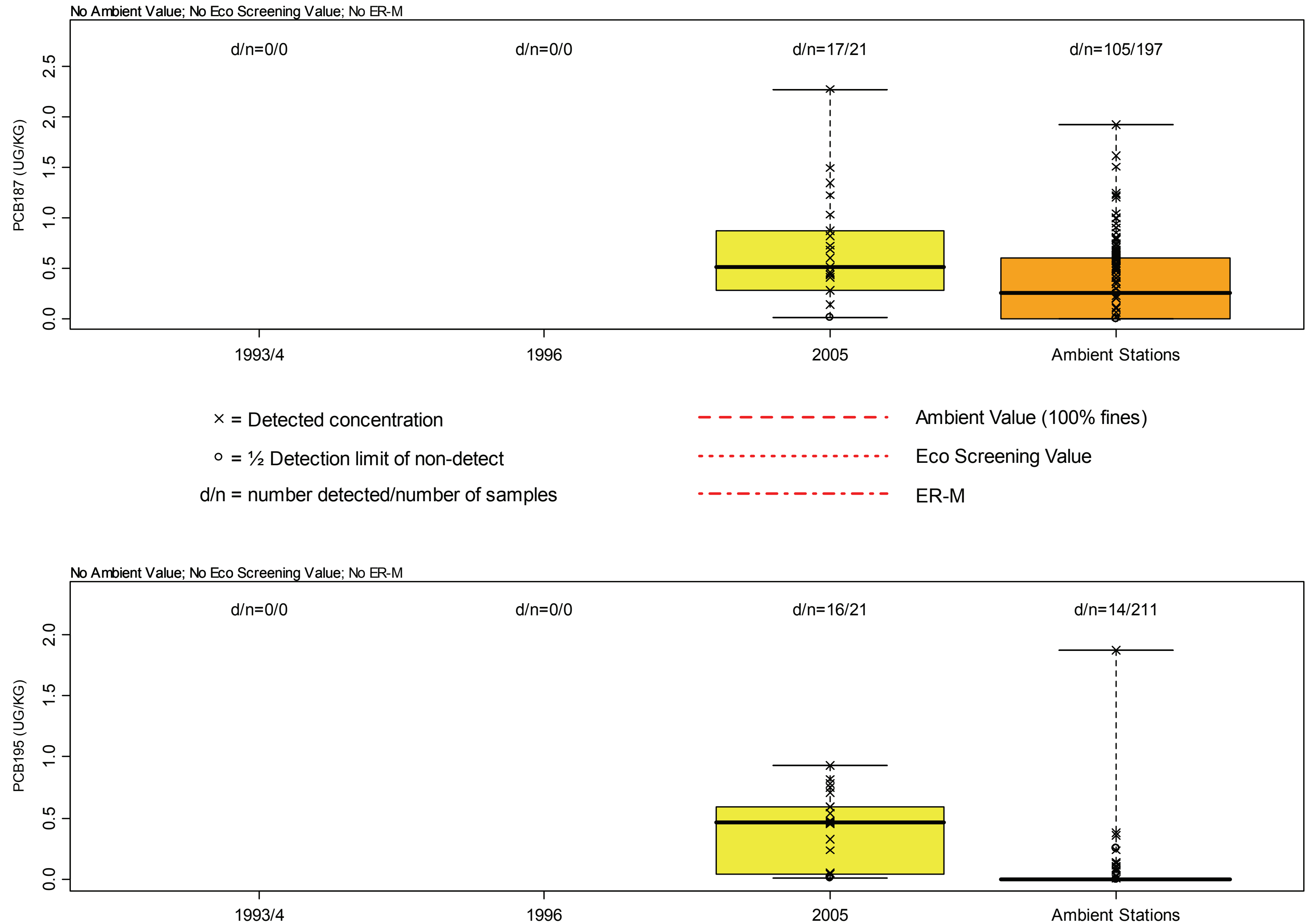


Figure A–24. Box Plots of PCB187 and PCB195 in Western Bayside Surface Sediment by Year.

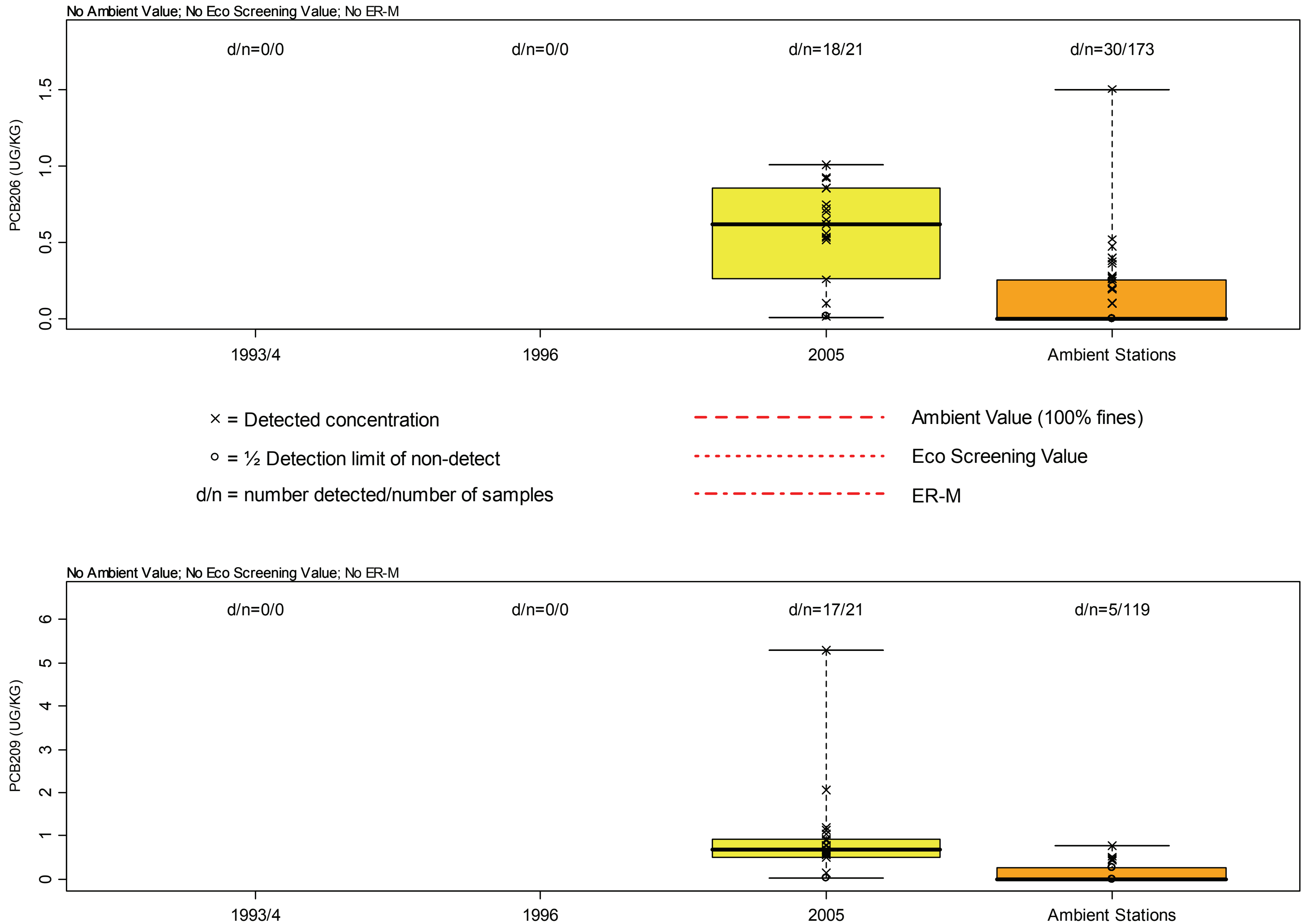


Figure A–25. Box Plots of PCB206 and PCB209 in Western Bayside Surface Sediment by Year.

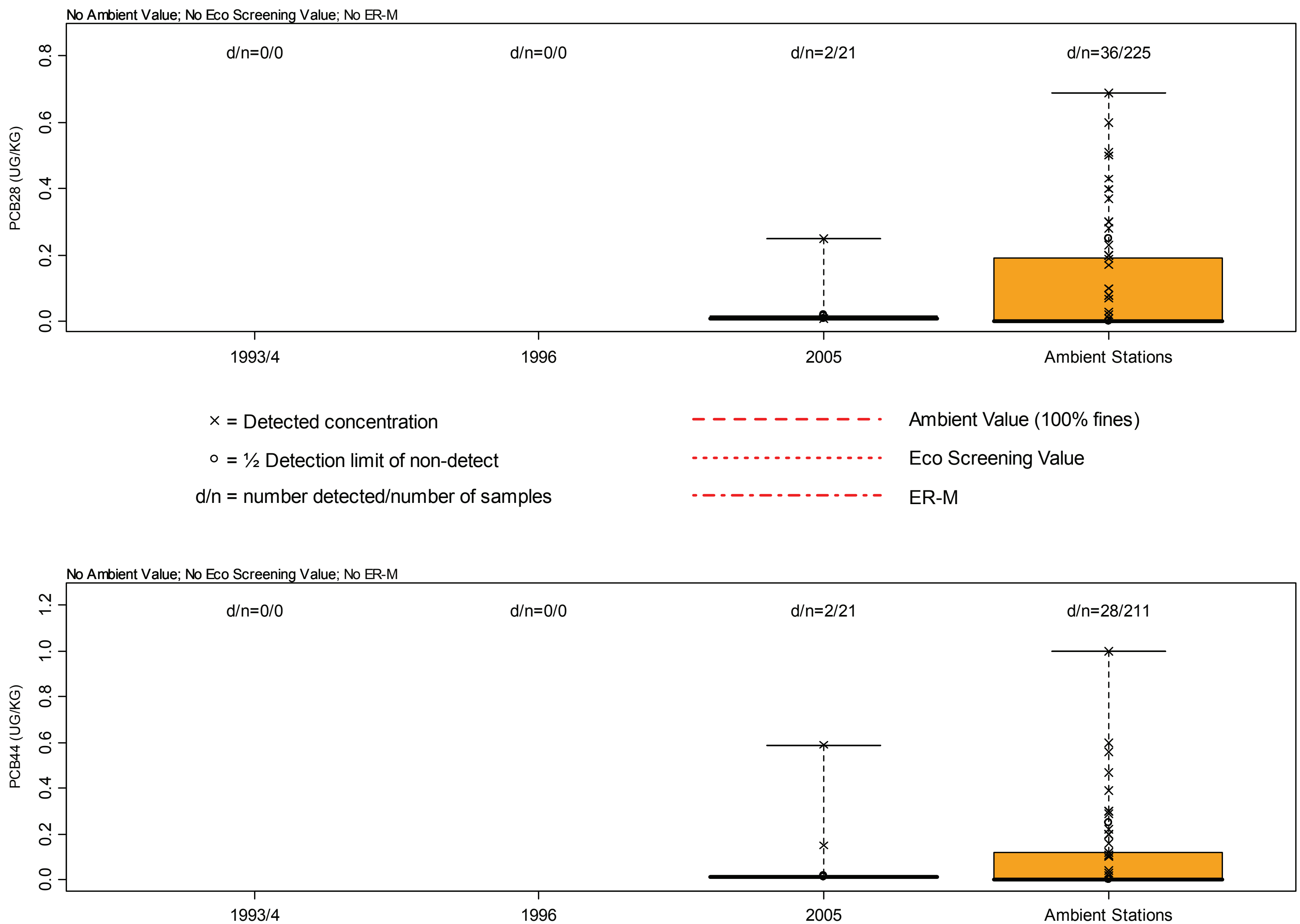


Figure A–26. Box Plots of PCB28 and PCB44 in Western Bayside Surface Sediment by Year.

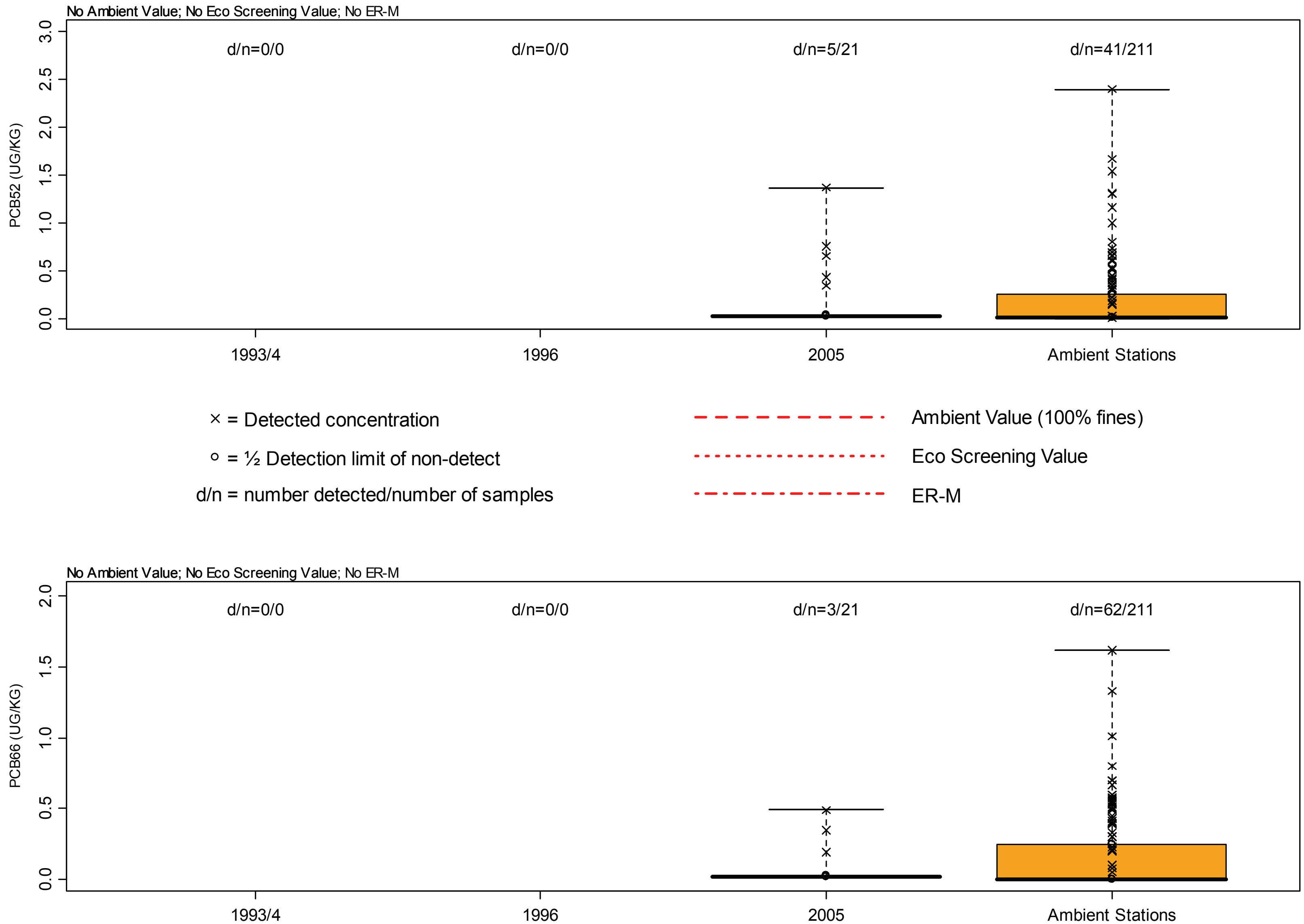


Figure A–27. Box Plots of PCB52 and PCB66 in Western Bayside Surface Sediment by Year.

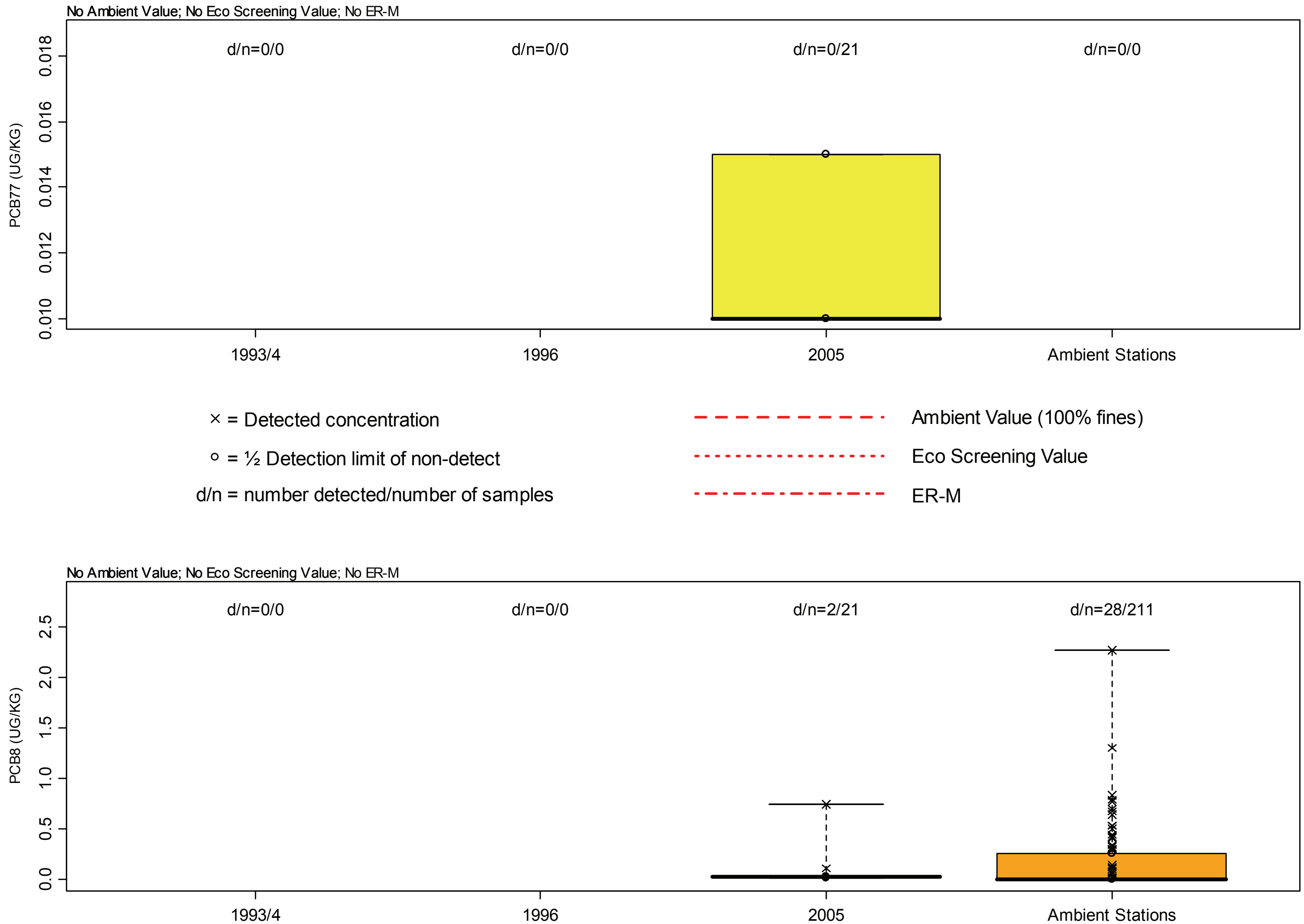


Figure A–28. Box Plots of PCB77 and PCB8 in Western Bayside Surface Sediment by Year.

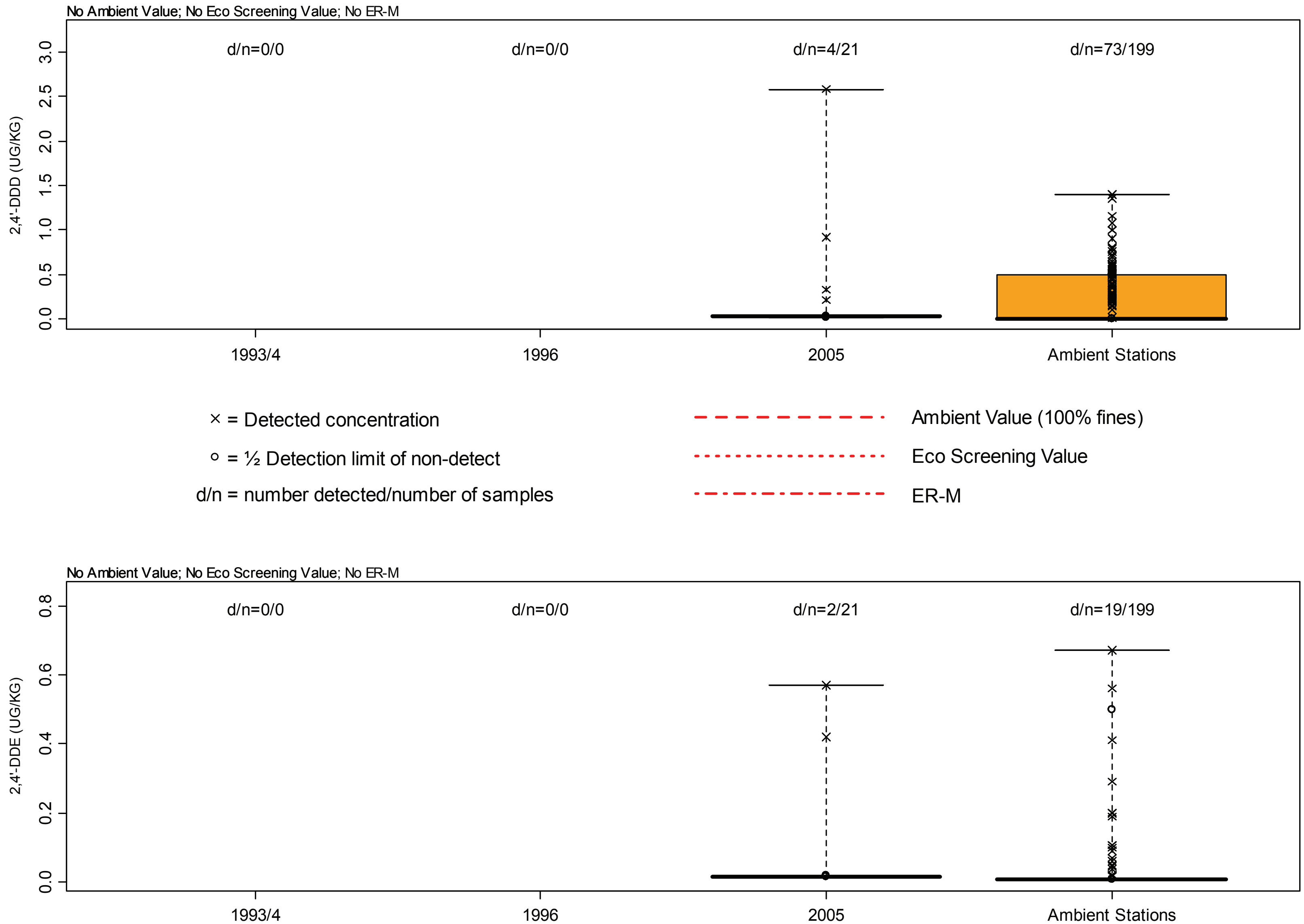


Figure A–29. Box Plots of 2,4'-DDD and 2,4'-DDE in Western Bayside Surface Sediment by Year

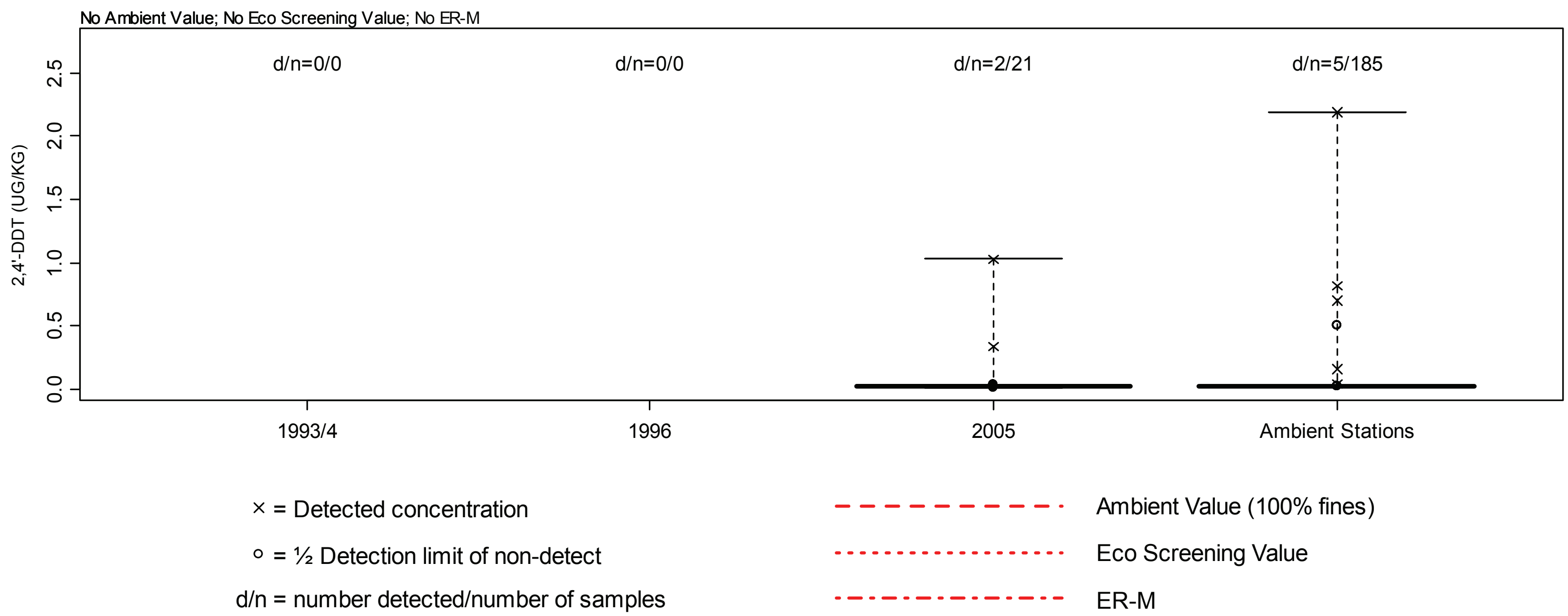


Figure A–30. Box Plots of 2,4'-DDT in Western Bayside Surface Sediment by Year.

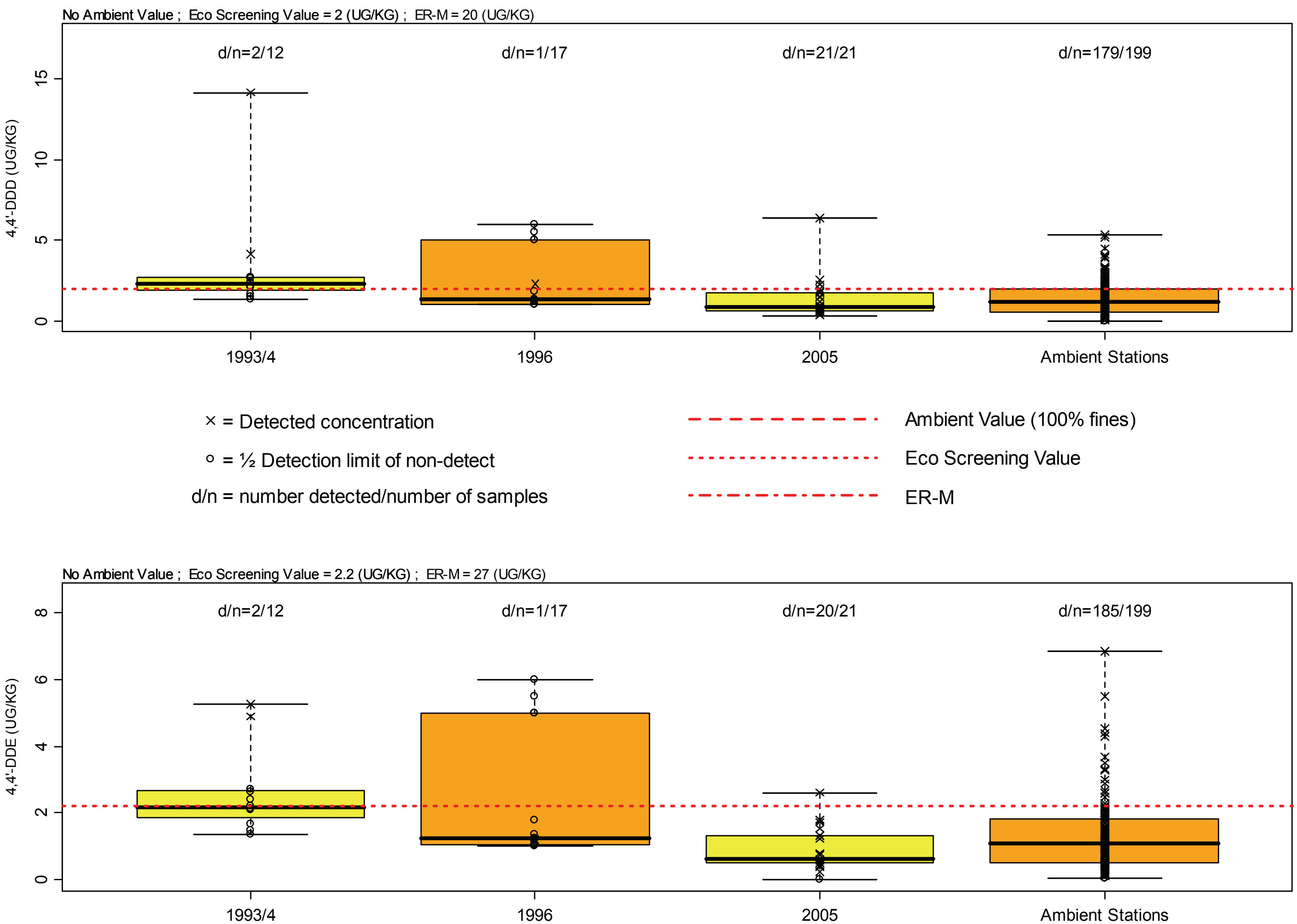


Figure A–31. Box Plots of 4,4’-DDD and 4,4’-DDE in Western Bayside Surface Sediment by Year.

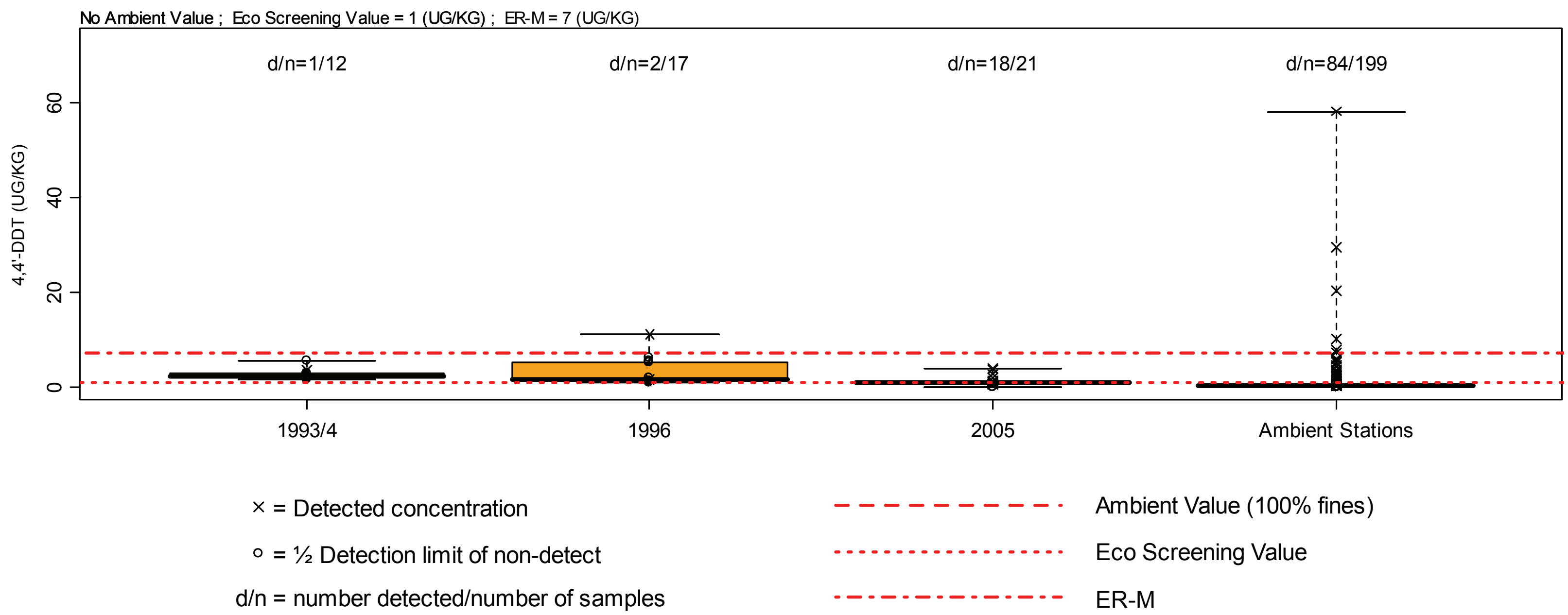


Figure A–32. Box Plots of 4,4’-DDT in Western Bayside Surface Sediment by Year.

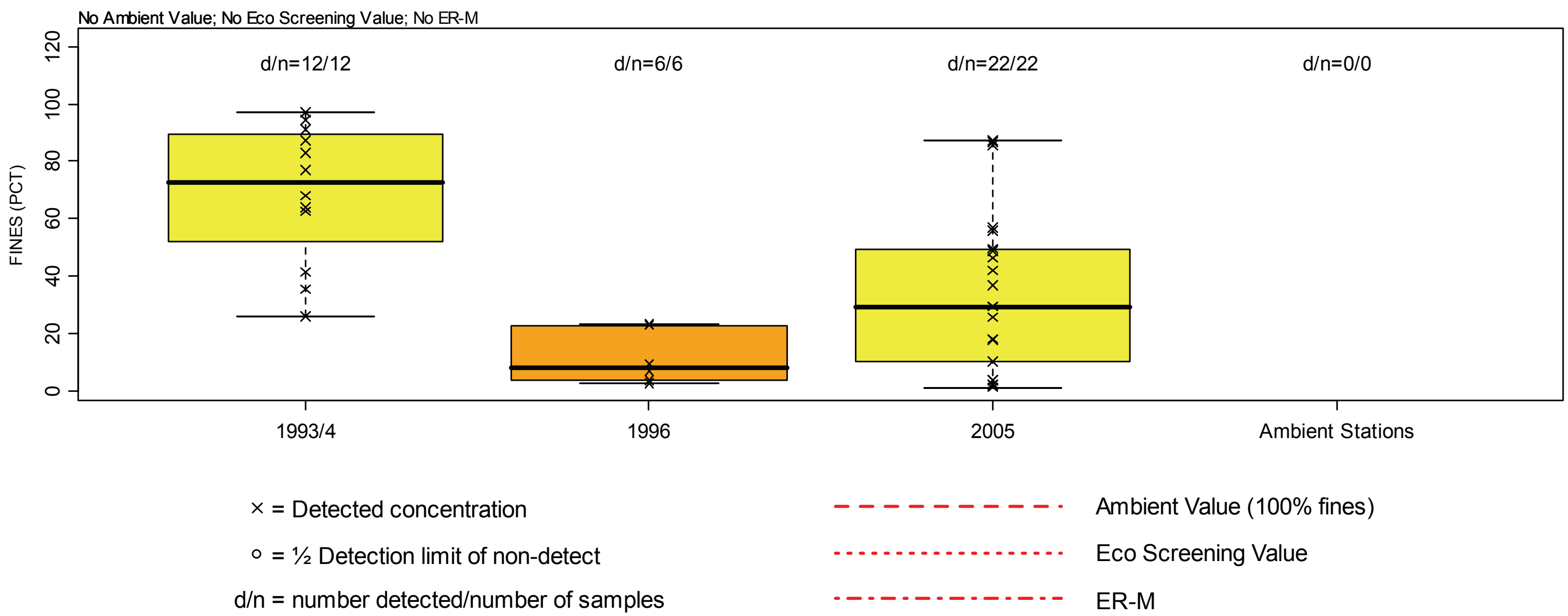


Figure A–33. Box Plots of Fine Grains in Western Bayside Surface Sediment by Year.

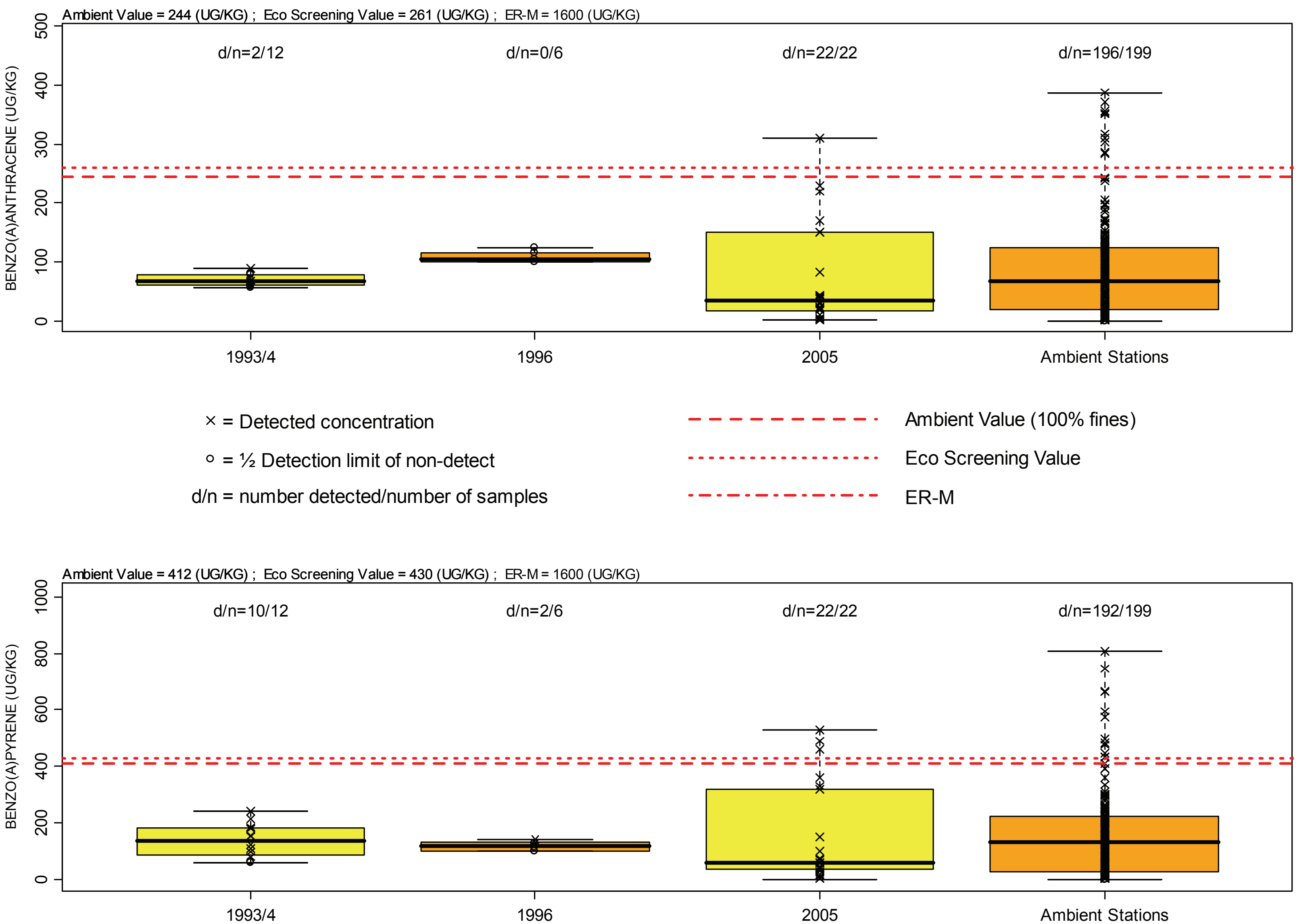


Figure A–34. Box Plots of Benzo(a)anthracene and Benzo(a)pyrene in Western Bayside Surface Sediment by Year.

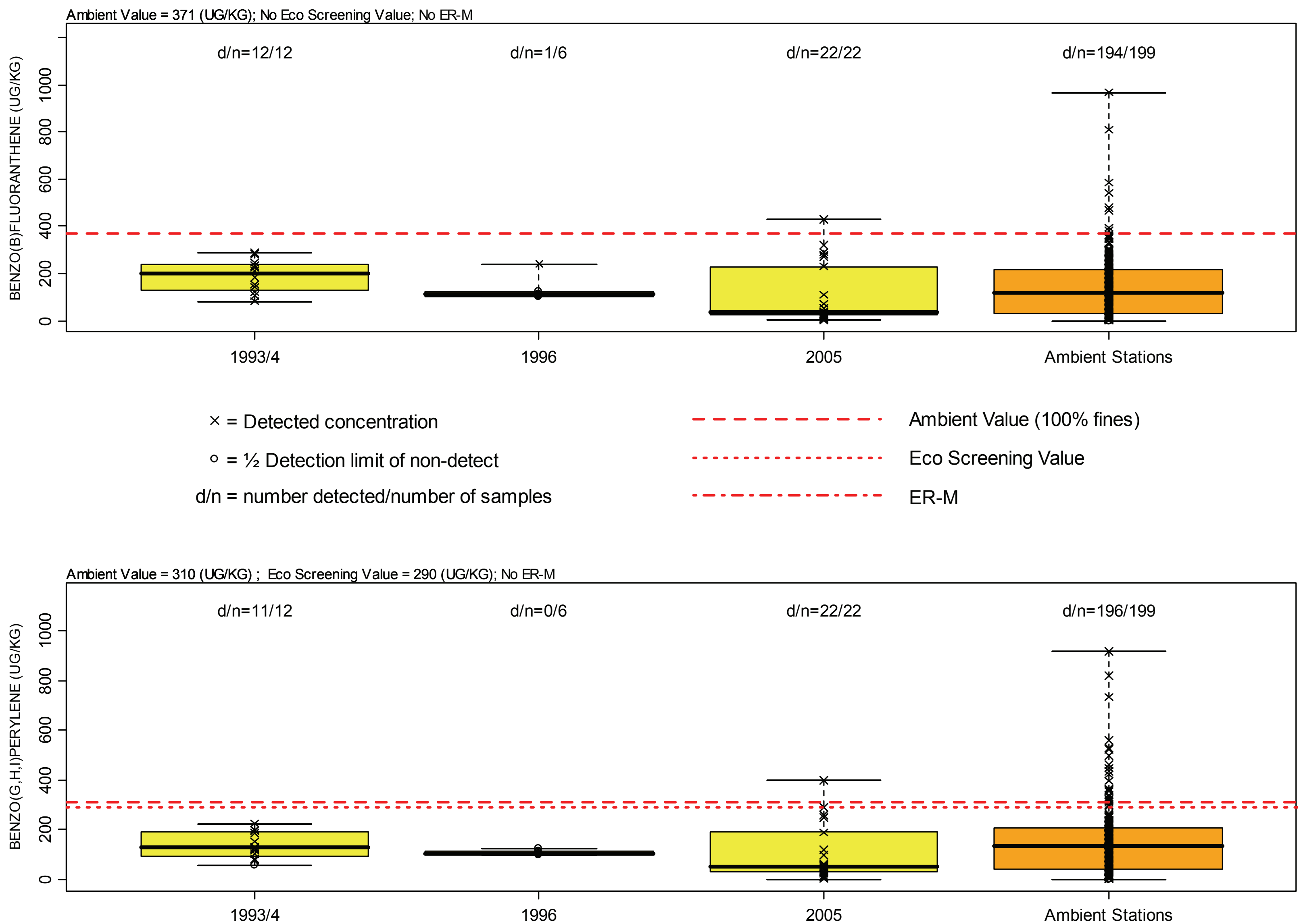


Figure A–35. Box Plots of Benzo(b)fluoranthene and Benzo(g,h,i)perylene in Western Bayside Surface Sediment by Year.

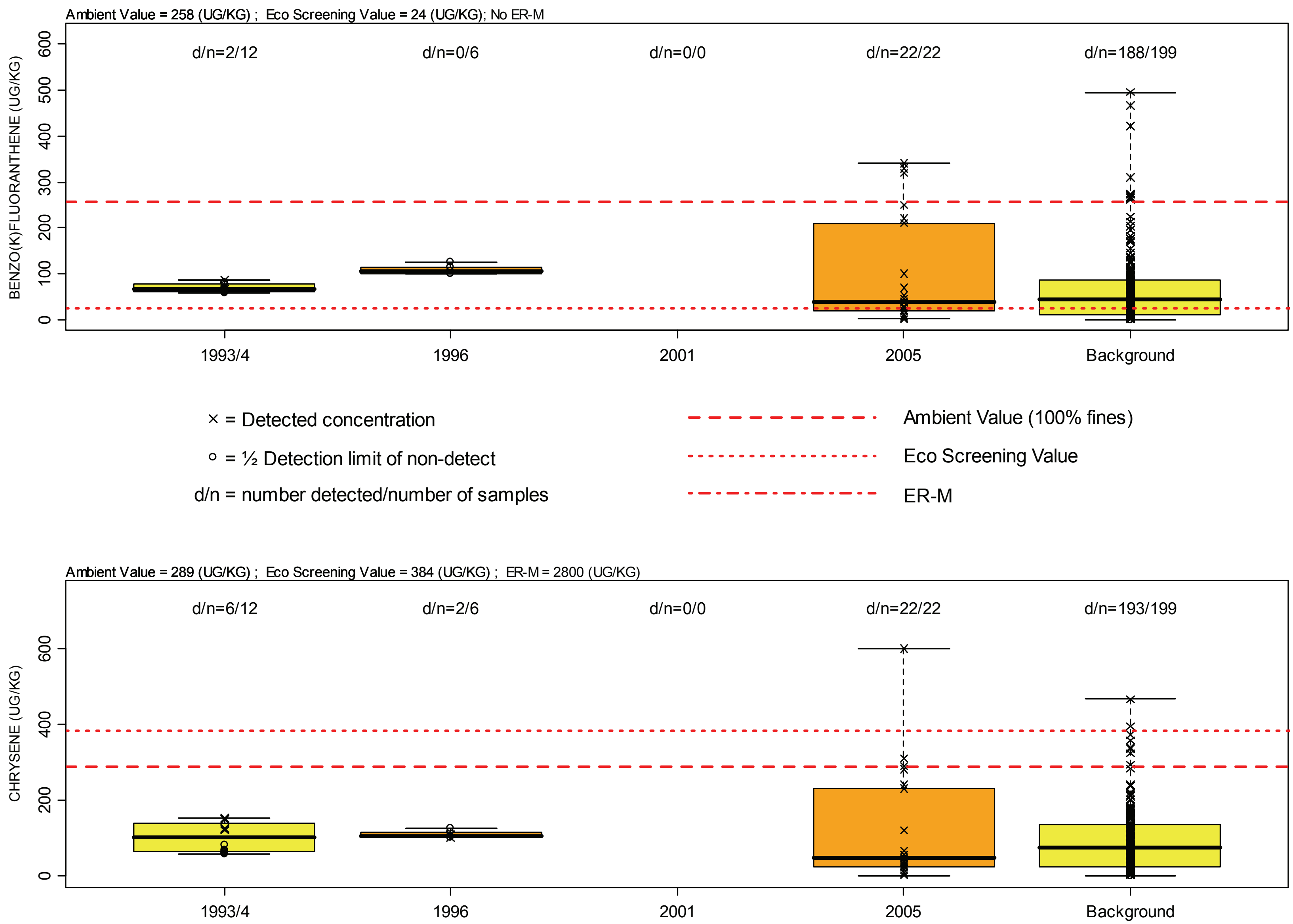


Figure A–36. Box Plots of Benzo(k)fluoranthene and Chrysene in Western Bayside Surface Sediment by Year.

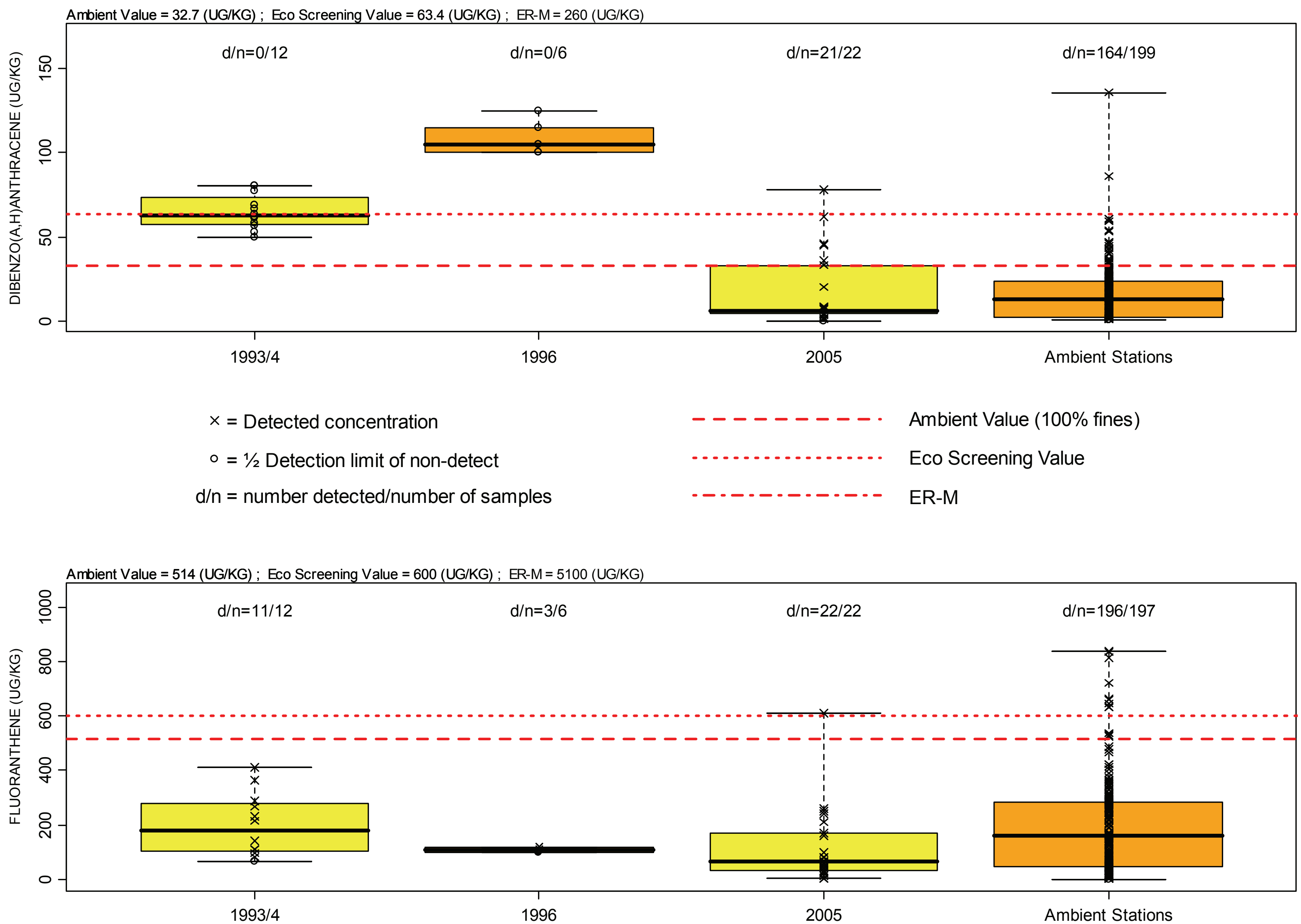


Figure A–37. Box Plots of Dibenzo(a,h)anthracene and Fluoranthene in Western Bayside Surface Sediment by Year.

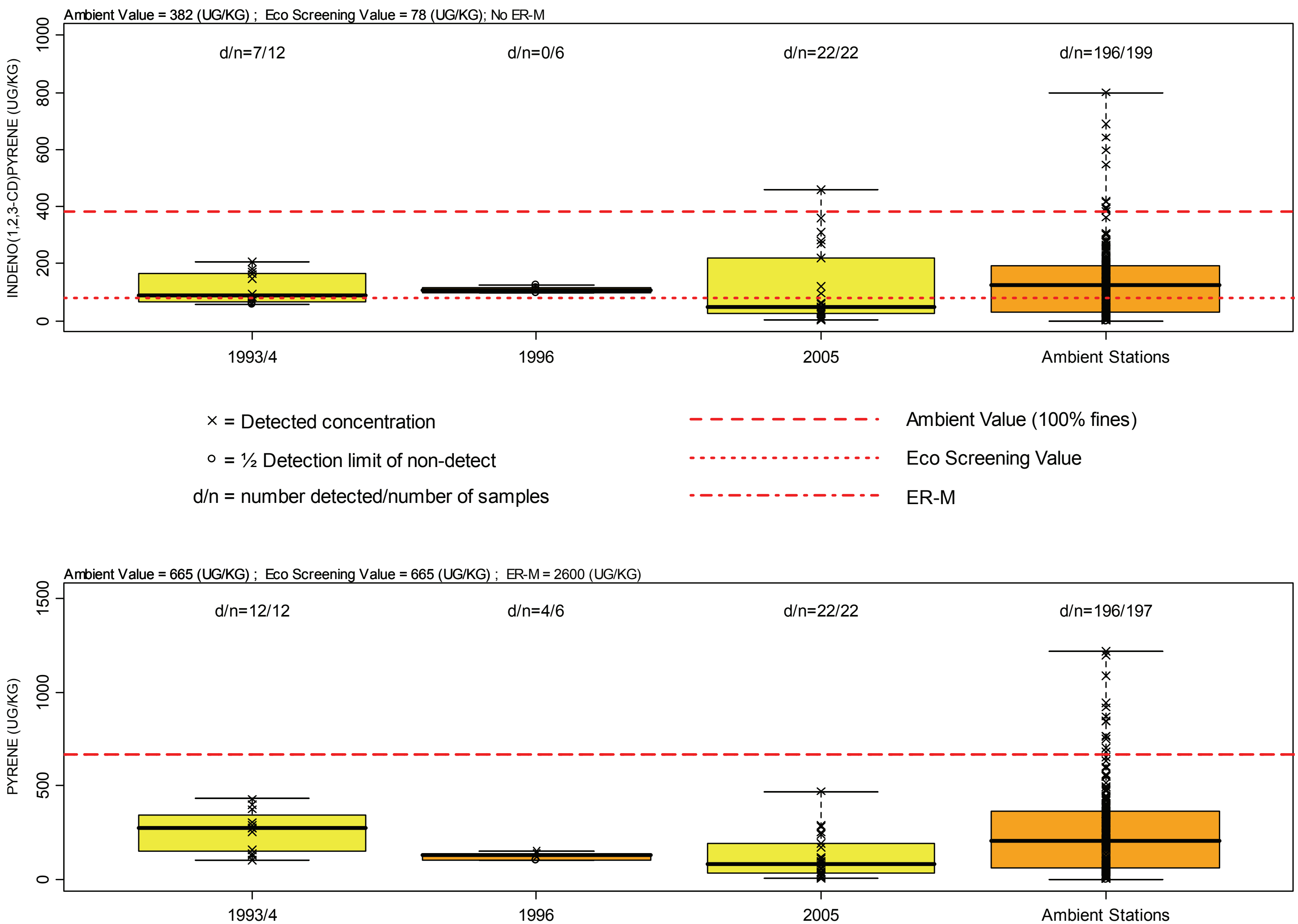


Figure A–38. Box Plots of Indeno(1,2,3-cd)pyrene and Pyrene in Western Bayside Surface Sediment by Year.

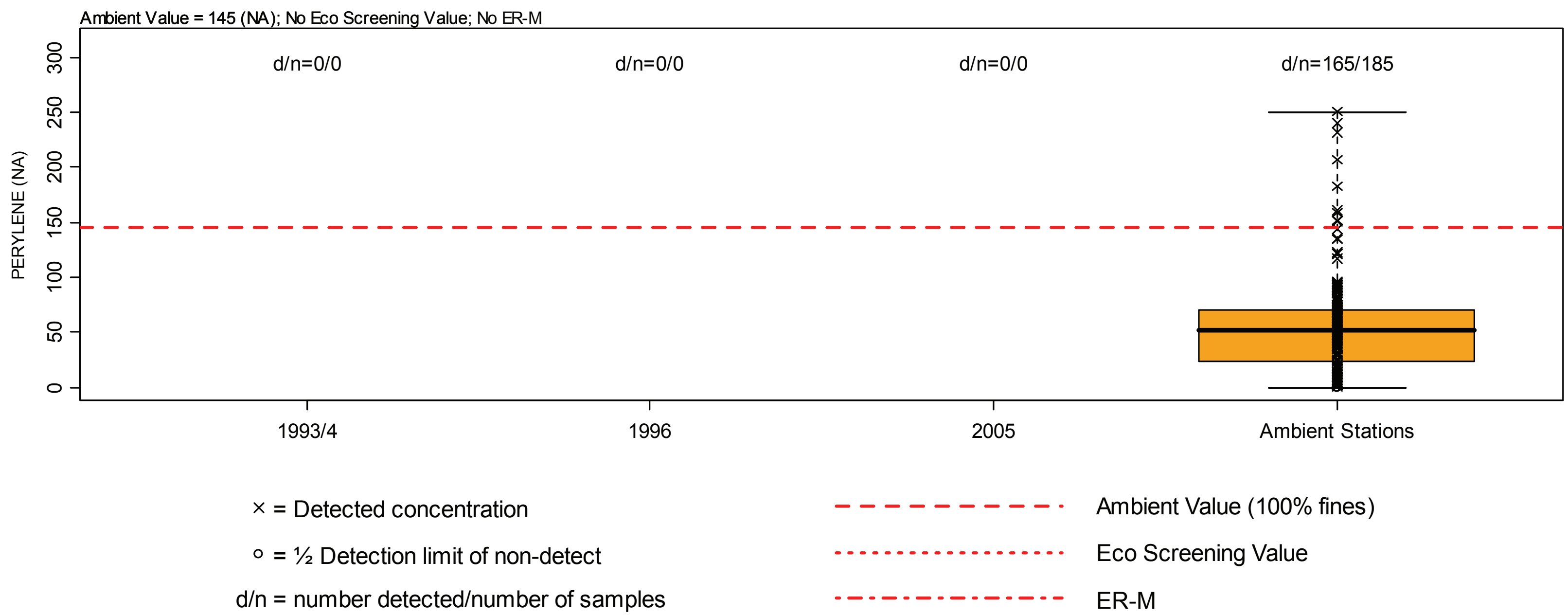


Figure A–39. Box Plots of Perylene in Western Bayside Surface Sediment by Year.

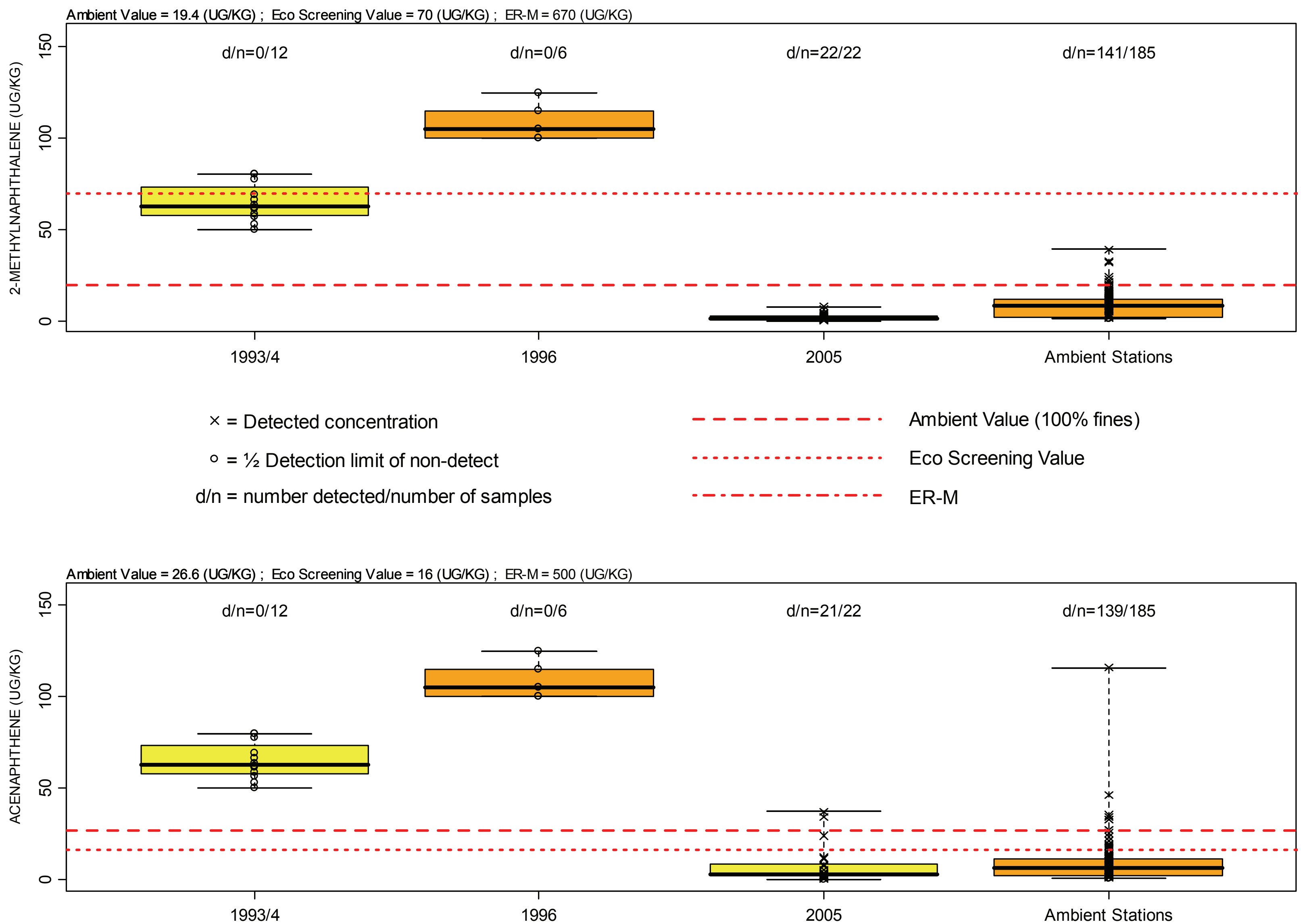


Figure A–40. Box Plots of 2-Methylnaphthalene and Acenaphthene in Western Bayside Surface Sediment by Year.

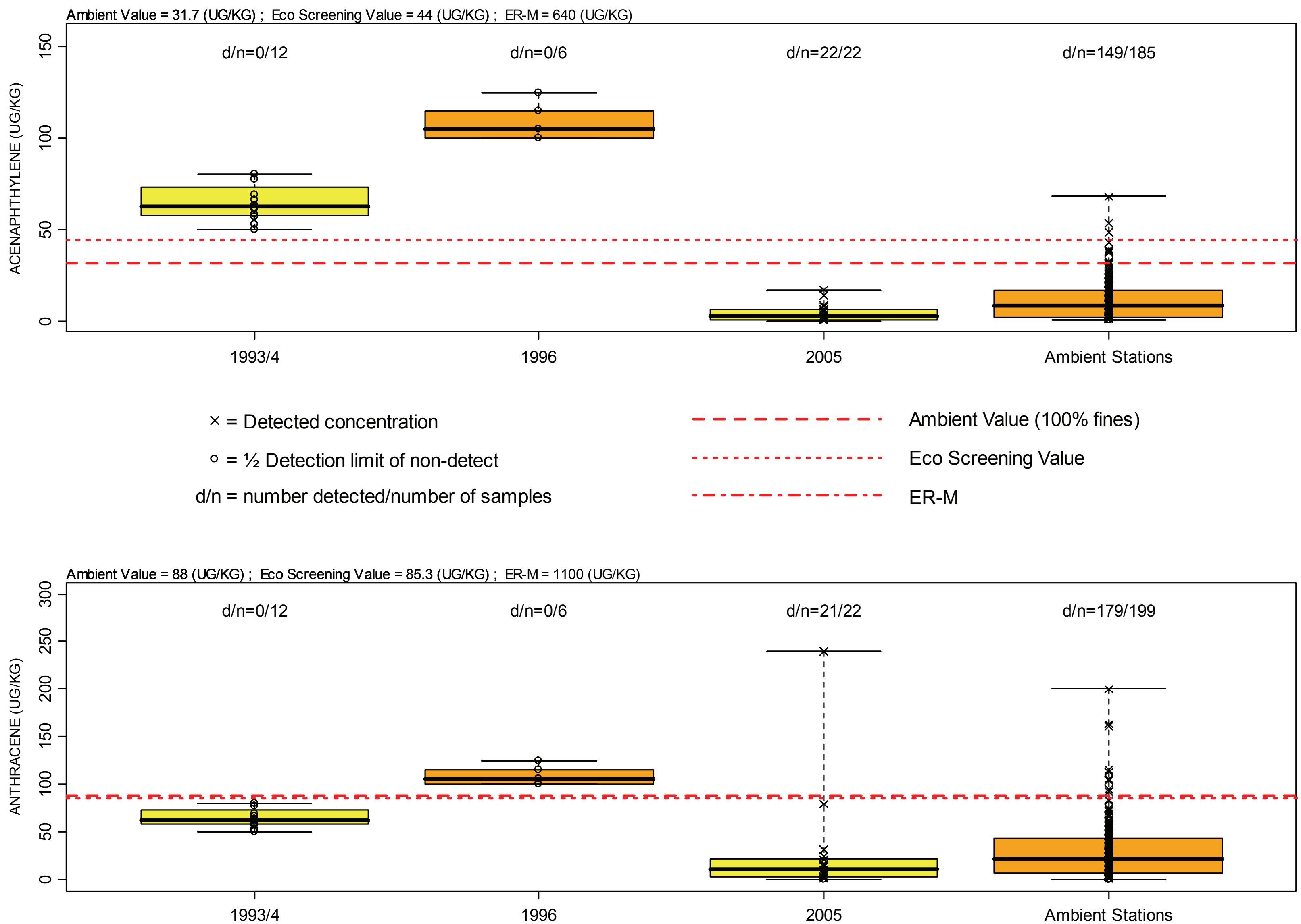


Figure A–41. Box Plots of Acenaphthylene and Anthracene in Western Bayside Surface Sediment by Year.

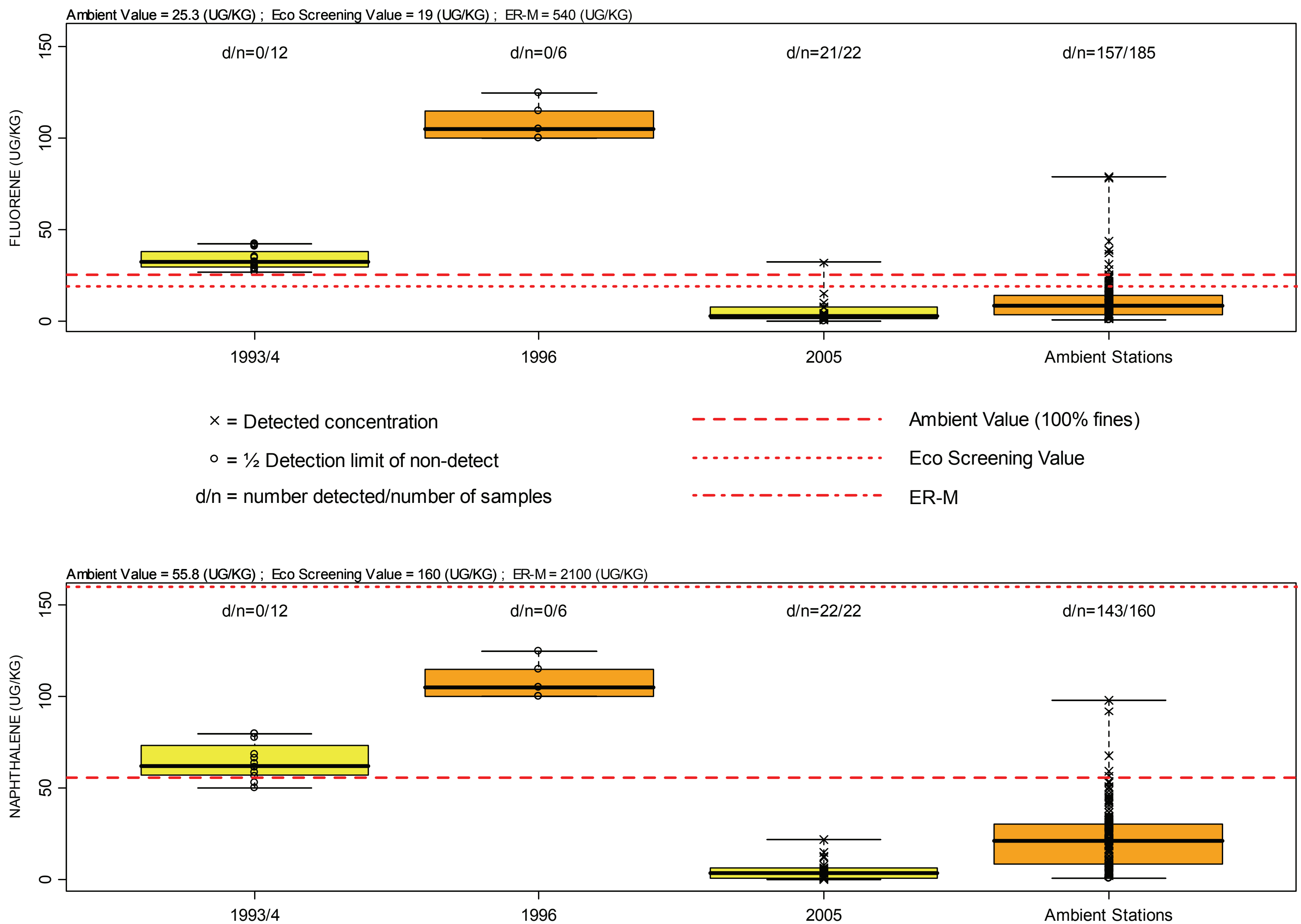


Figure A–42. Box Plots of Fluorene and Naphthalene in Western Bayside Surface Sediment by Year.

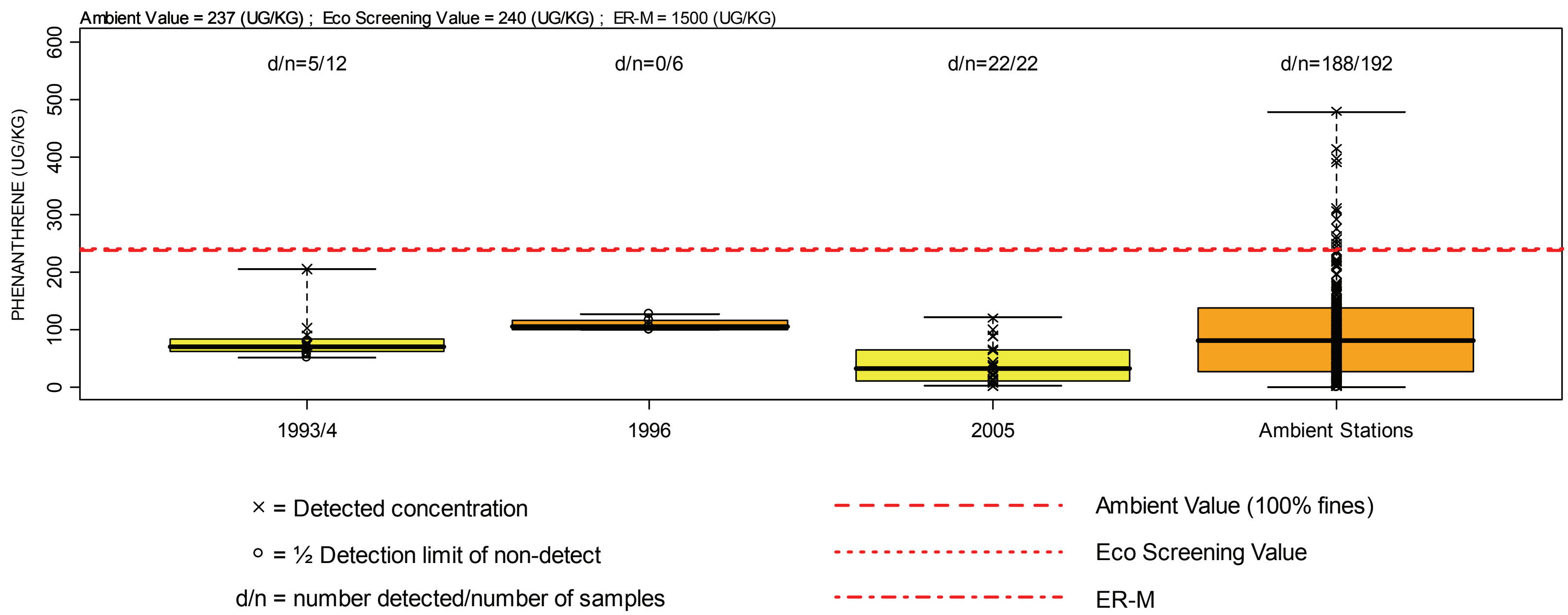


Figure A–43. Box Plots of Phenanthrene in Western Bayside Surface Sediment by Year.

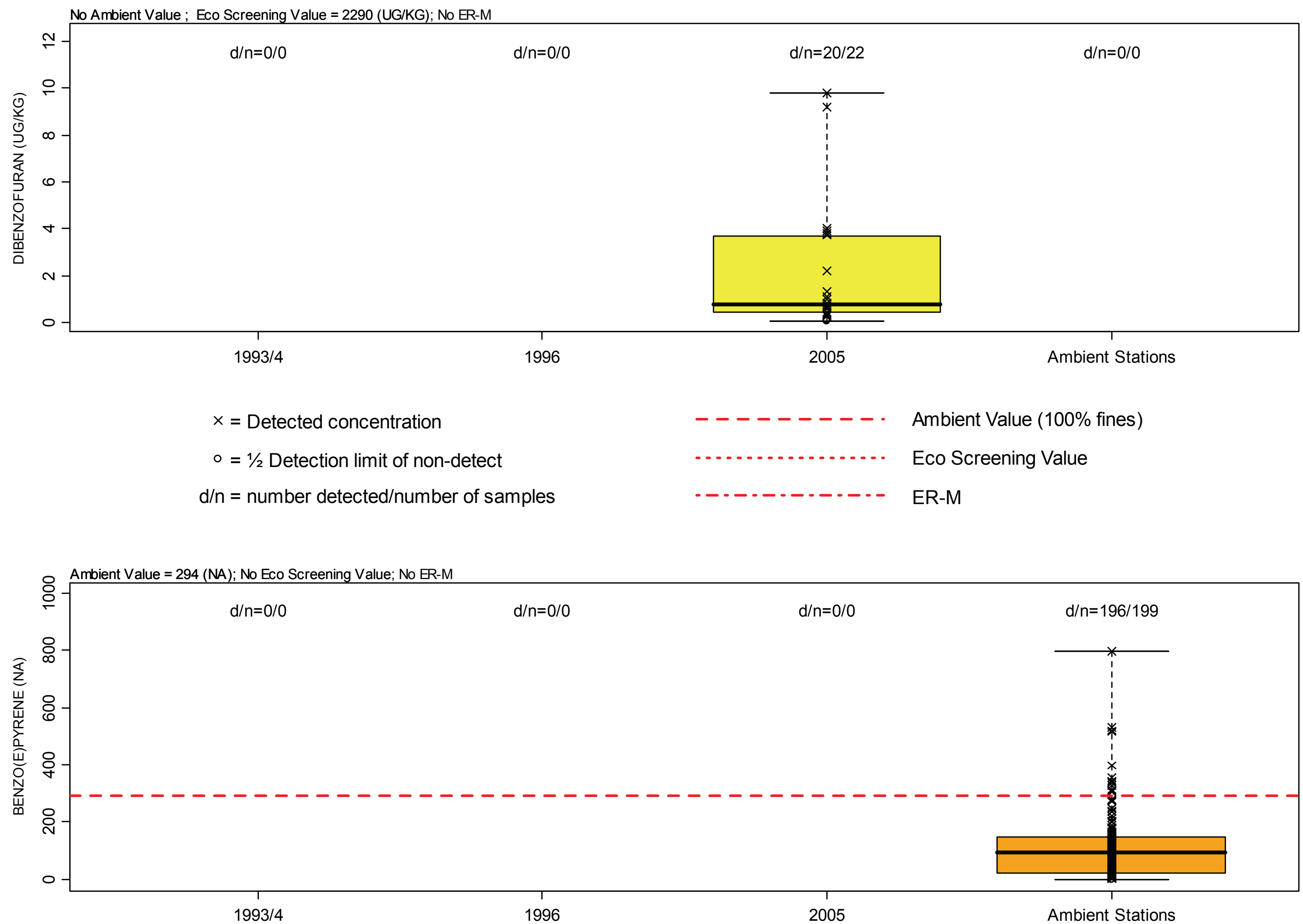
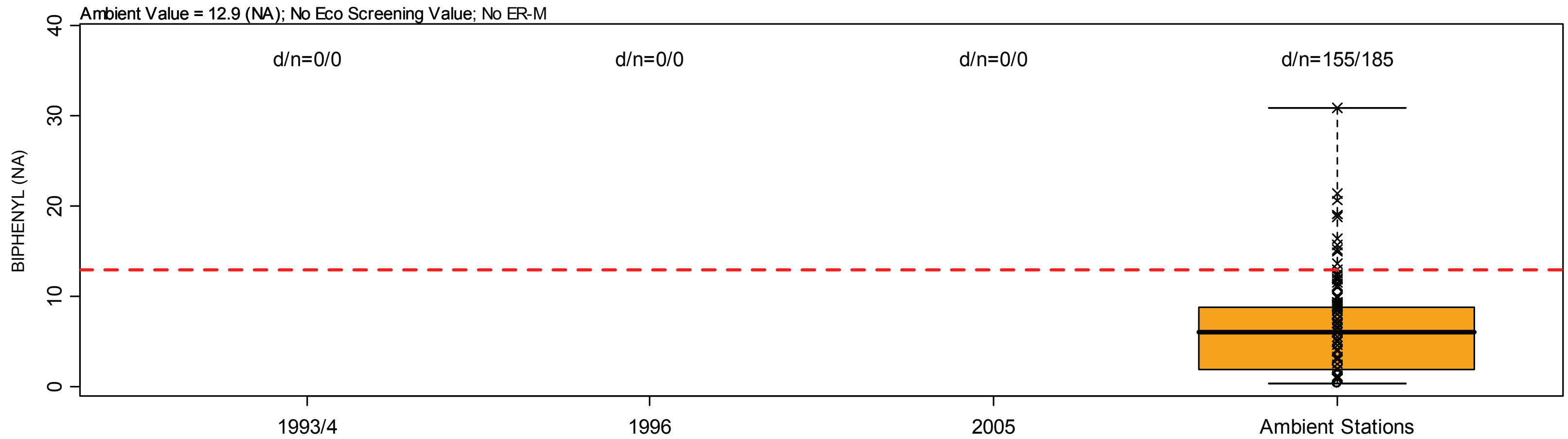


Figure A–44. Box Plots of Dibenzofuran and Benzo(e)pyrene in Western Bayside Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

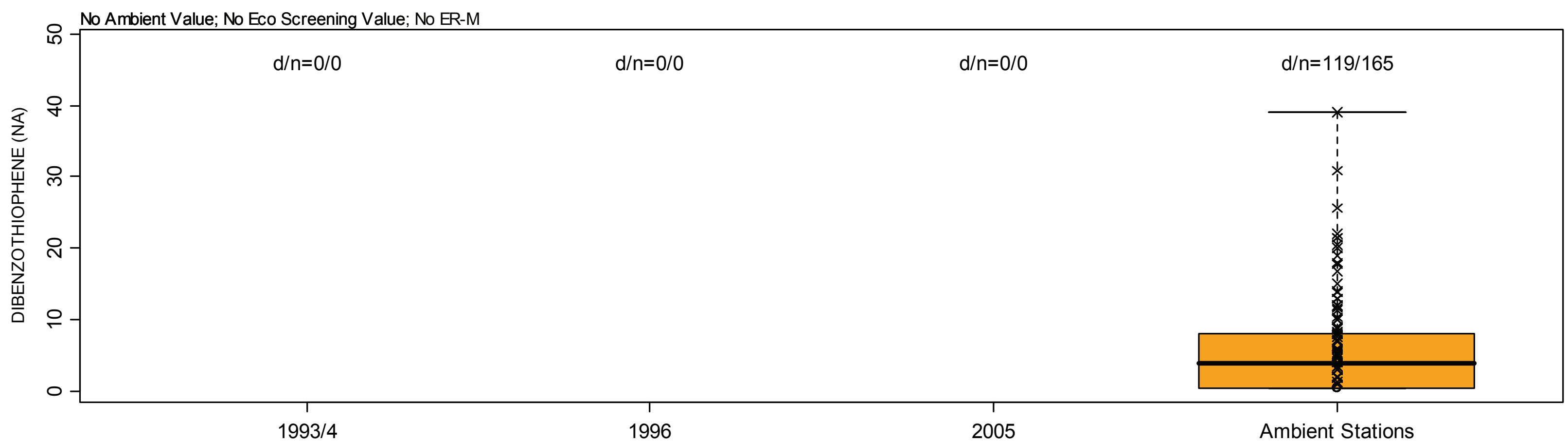


Figure A–45. Box Plots of Biphenyl and Dibenzothiophene in Western Bayside Surface Sediment by Year.

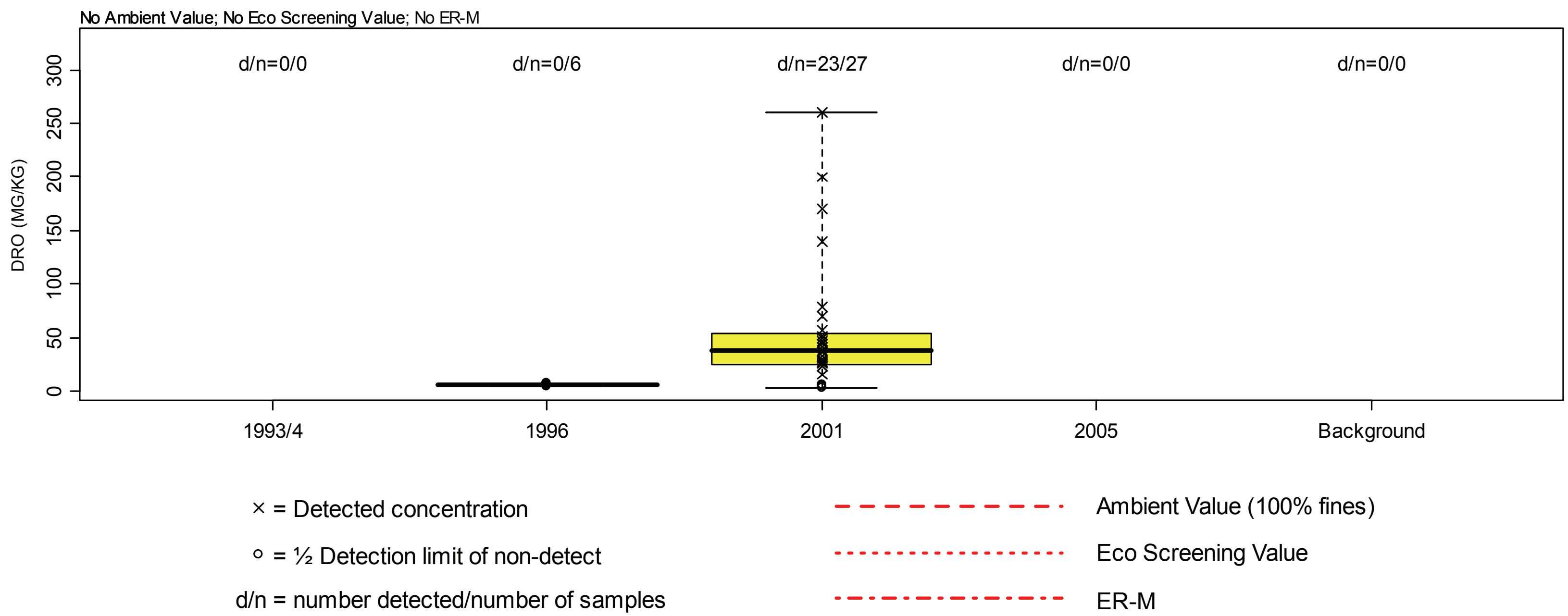


Figure A–46. Box Plots of DRO in Western Bayside Surface Sediment by Year.

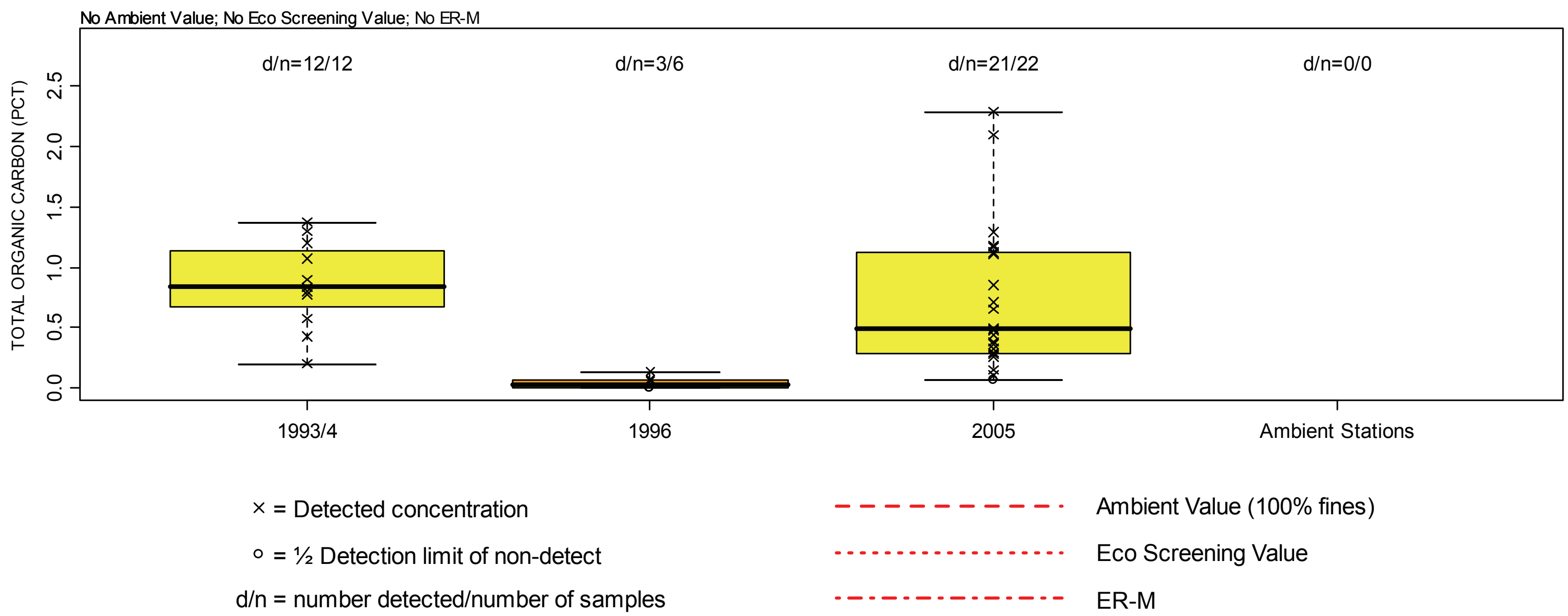


Figure A–47. Box Plots of Total Organic Carbon in Western Bayside Surface Sediment by Year.

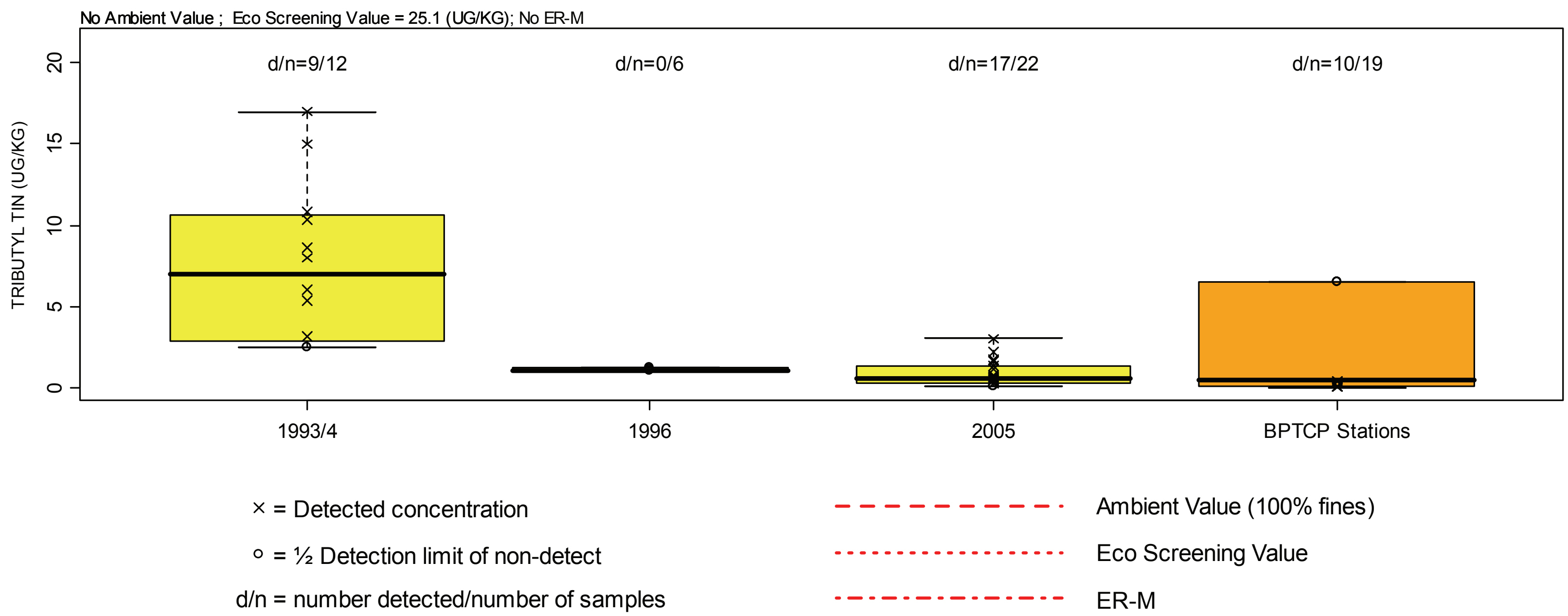


Figure A–48. Box Plots of Tributyl Tin in Western Bayside Surface Sediment by Year.

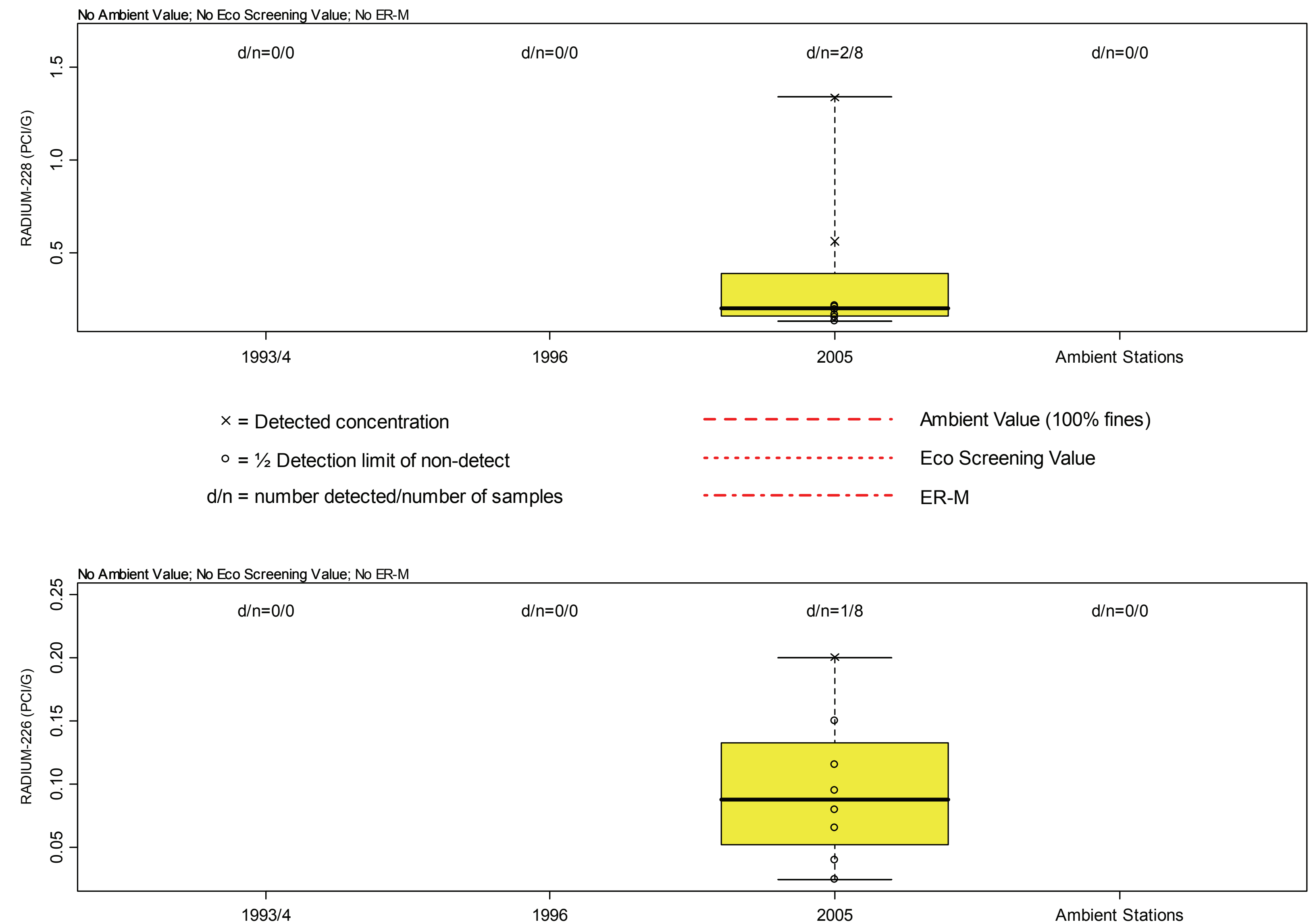


Figure A–49. Box Plots of Radium-228 and Radium-226 in Western Bayside Surface Sediment by Year.

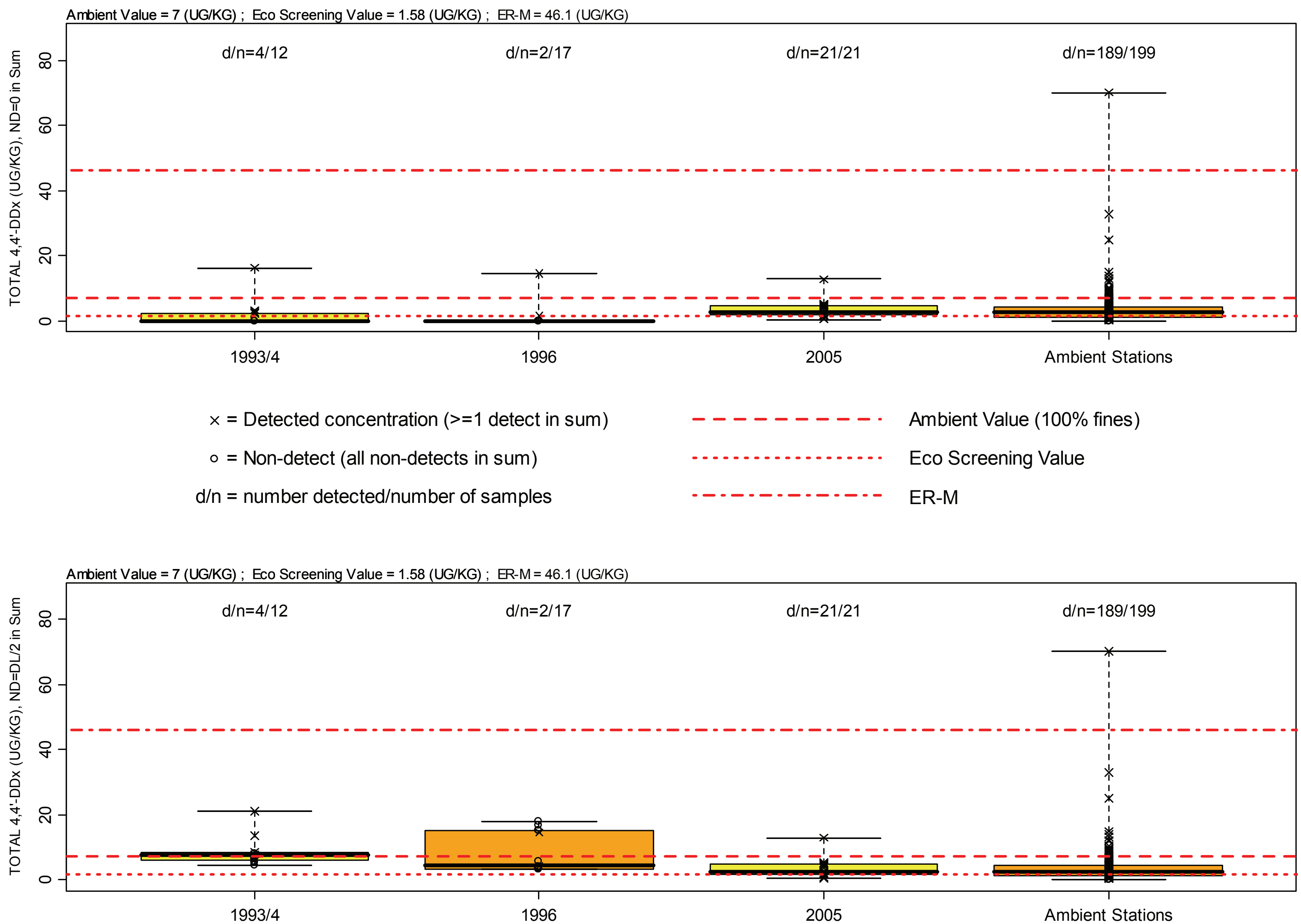


Figure A–50. Box Plots of Total 4,4'-DDx in Western Bayside Surface Sediment by Year.

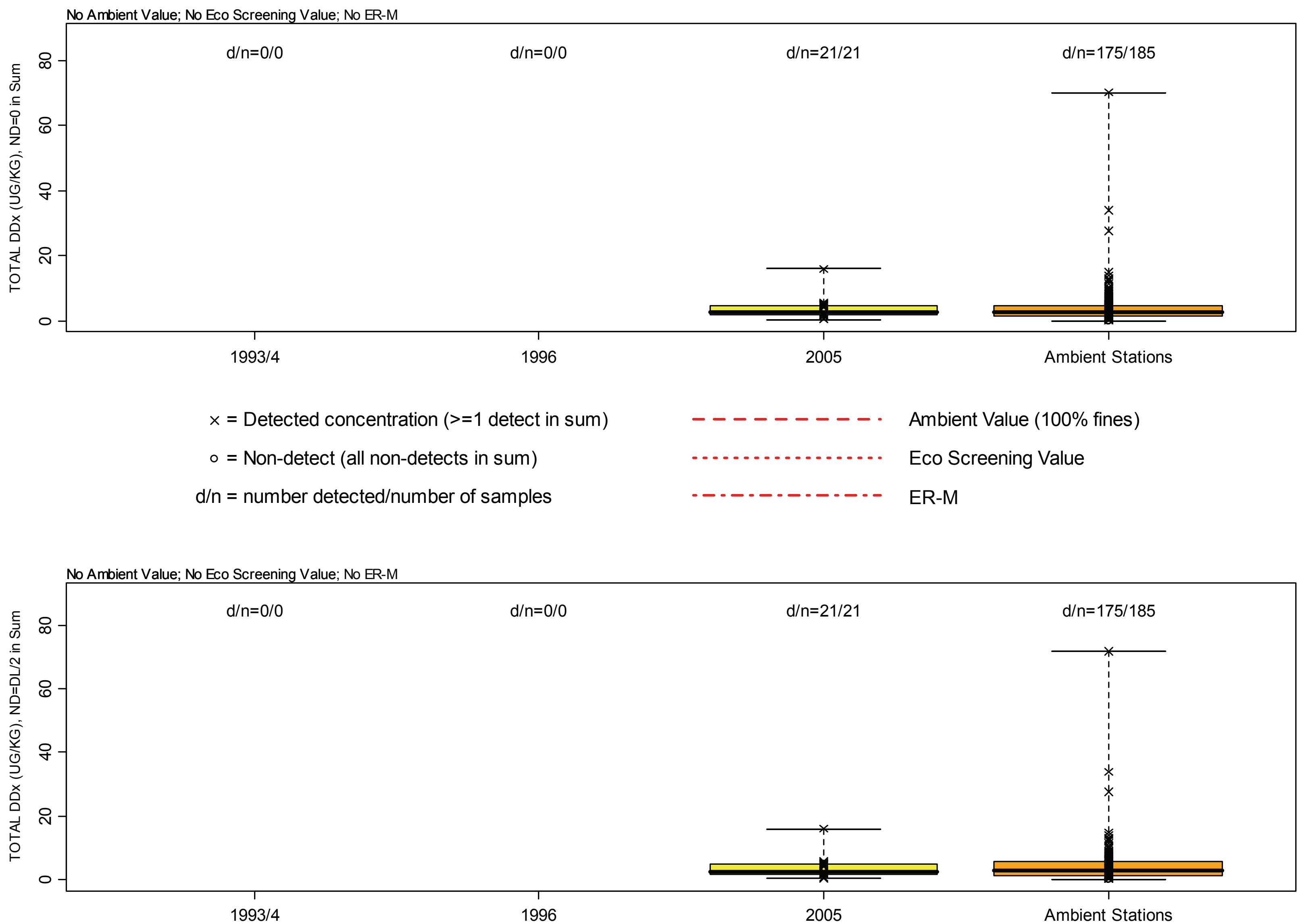
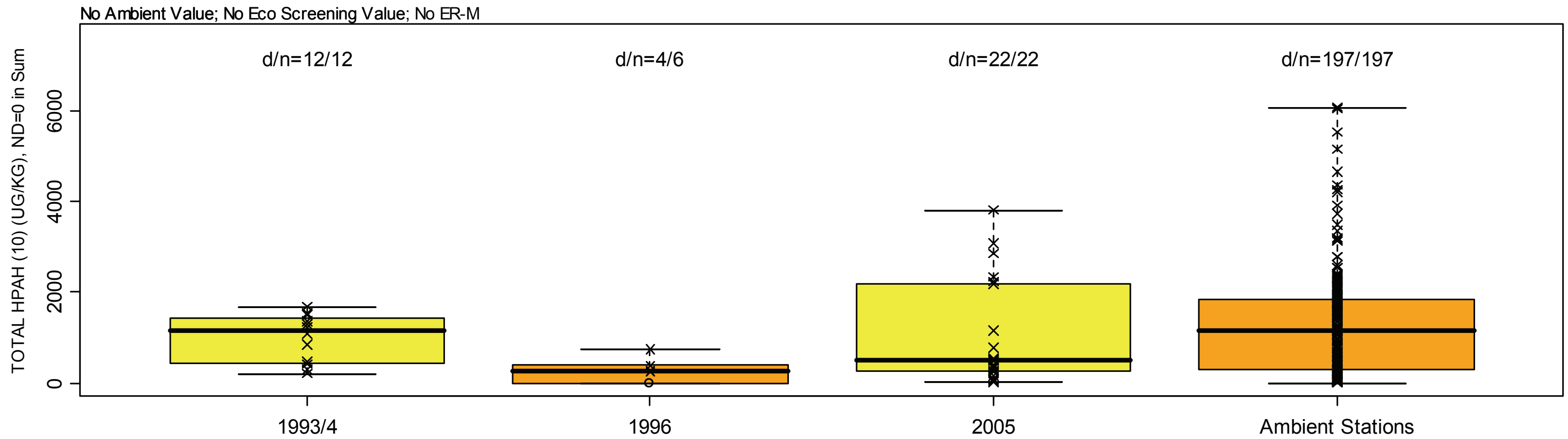


Figure A–51. Box Plots of Total DDx in Western Bayside Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

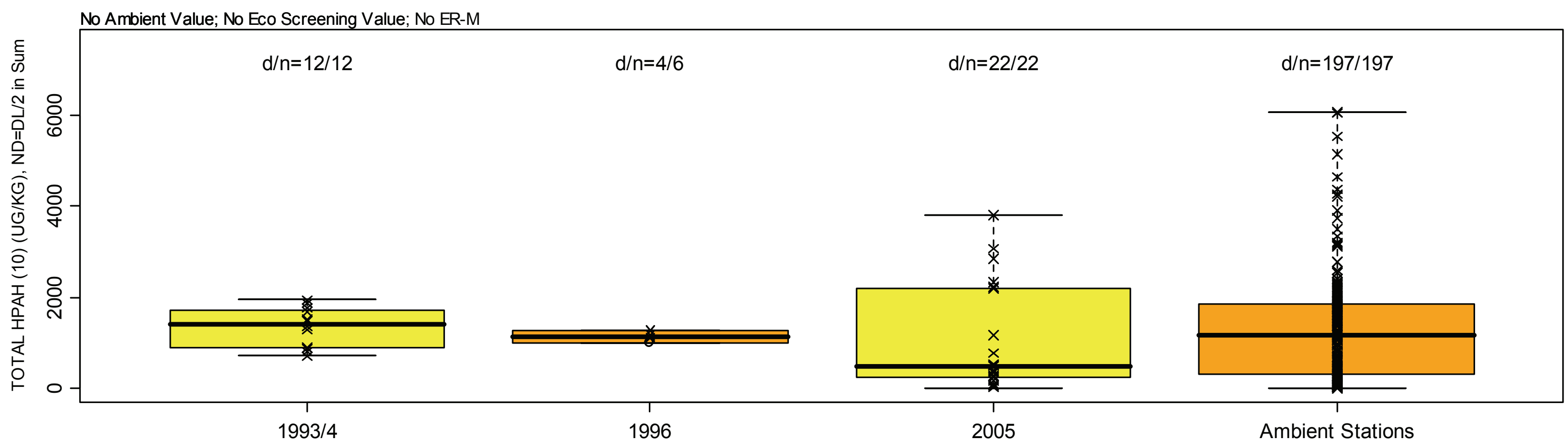
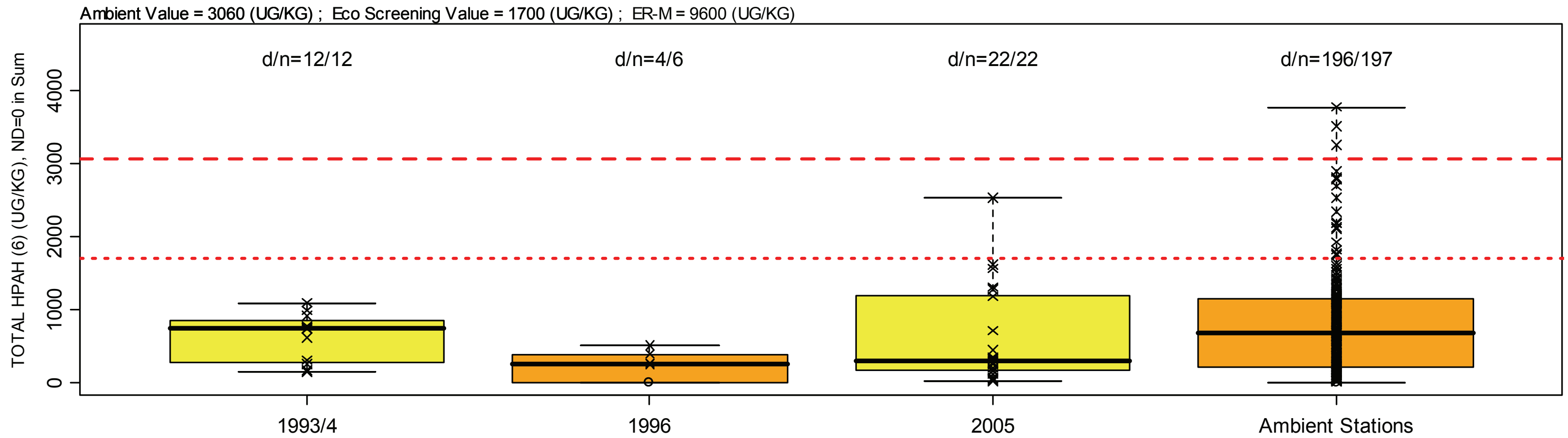


Figure A–52. Box Plots of Total HPAH (10) in Western Bayside Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum) — Ambient Value (100% fines)

o = Non-detect (all non-detects in sum) — Eco Screening Value

d/n = number detected/number of samples — ER-M

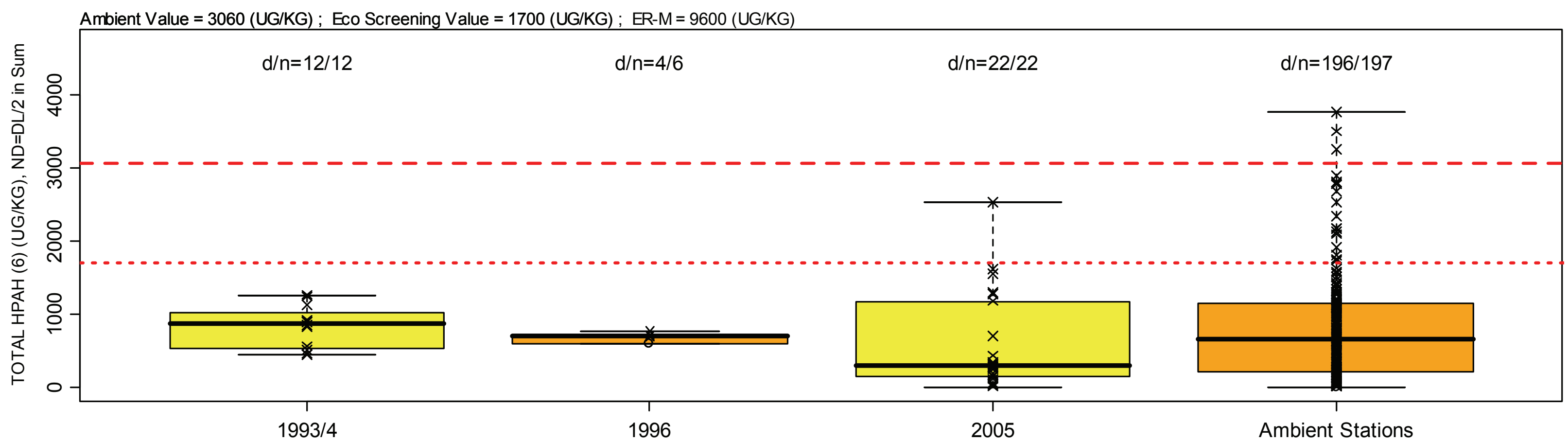


Figure A–53. Box Plots of Total HPAH (6) in Western Bayside Surface Sediment by Year.

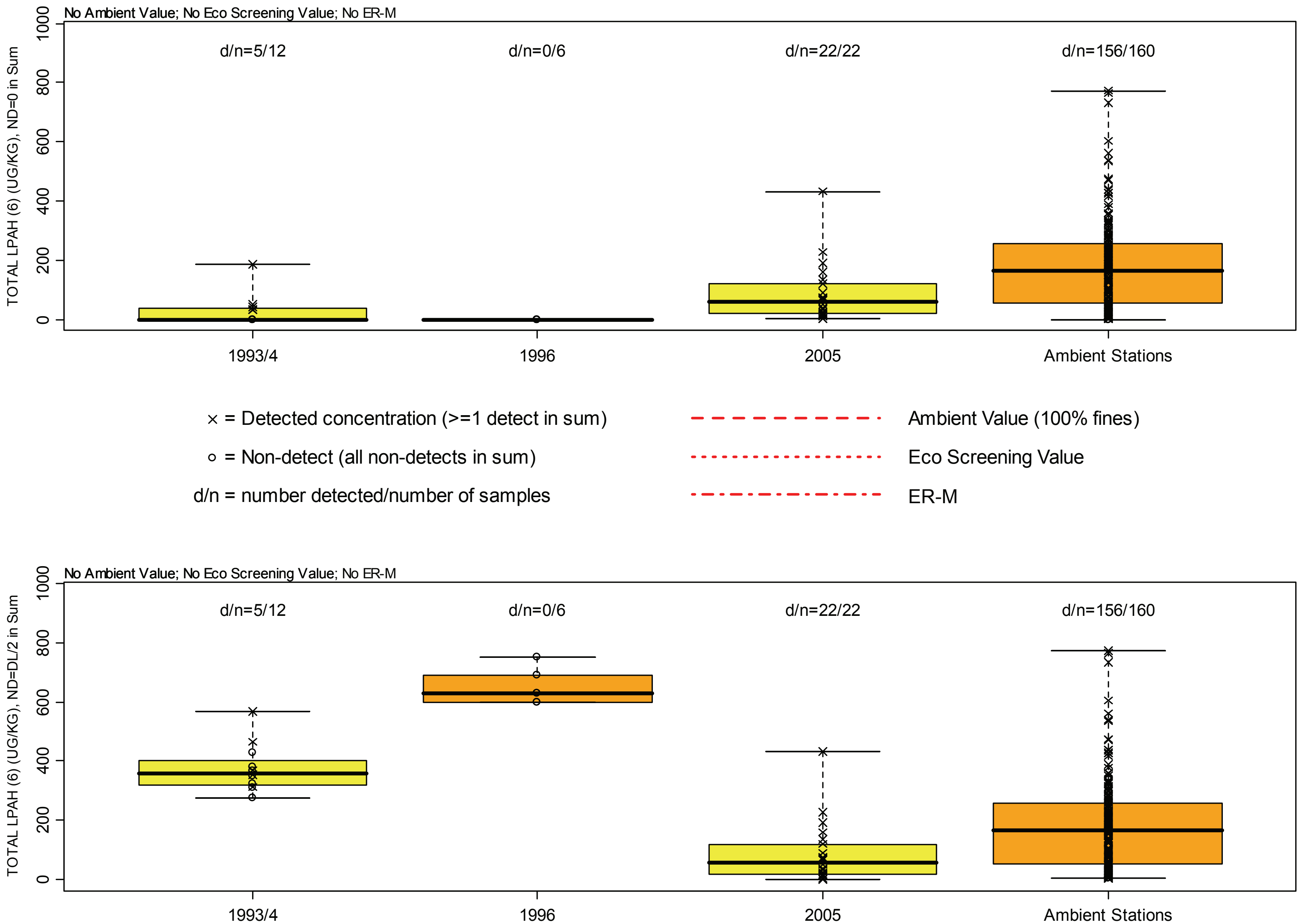
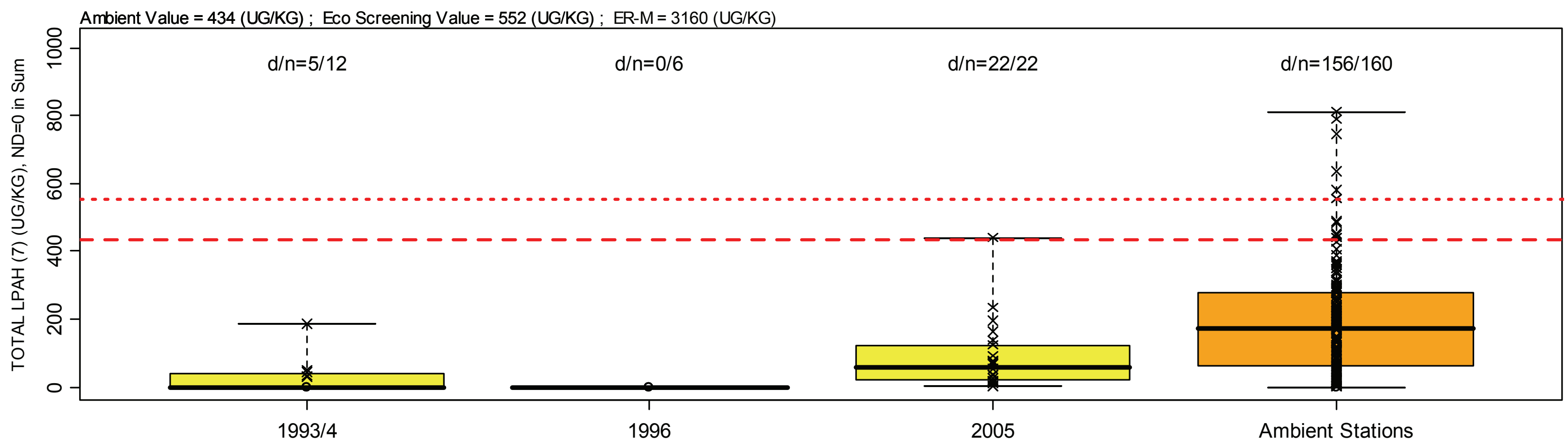


Figure A–54. Box Plots of Total LPAH (6) in Western Bayside Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

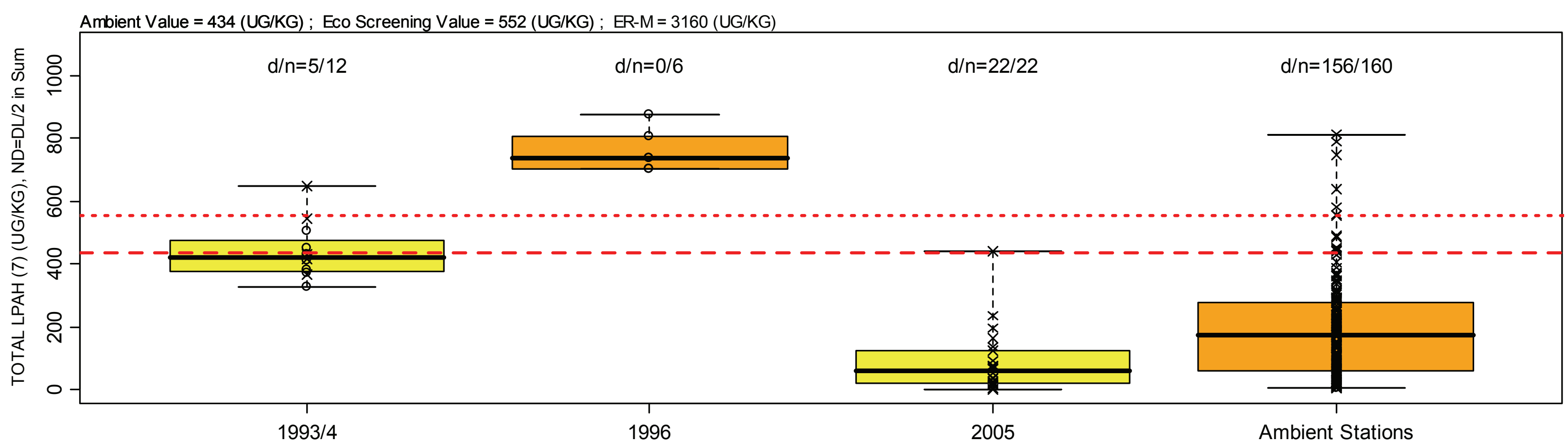


Figure A–55. Box Plots of Total LPAH (7) in Western Bayside Surface Sediment by Year.

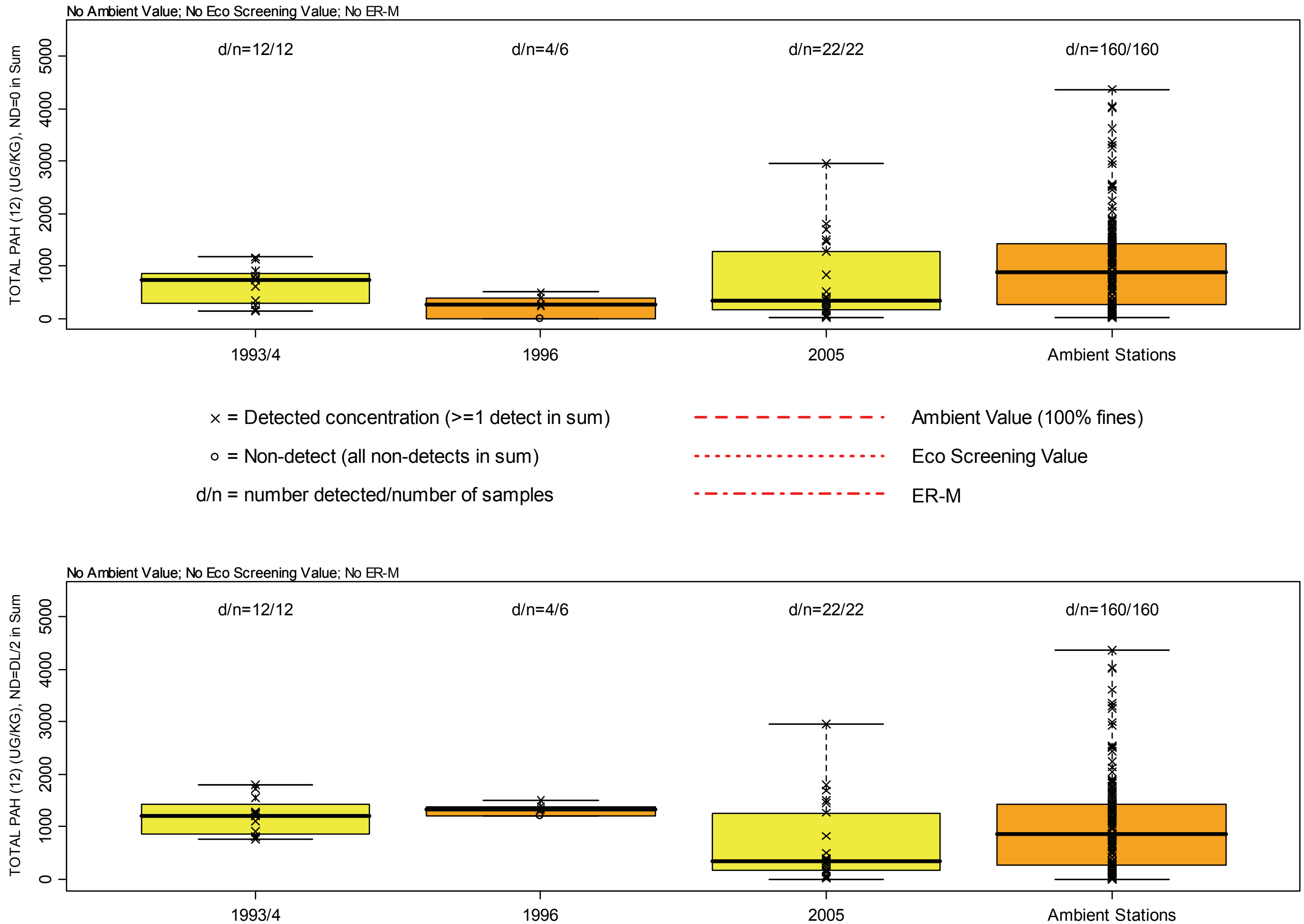


Figure A–56. Box Plots of Total PAH (12) in Western Bayside Surface Sediment by Year.

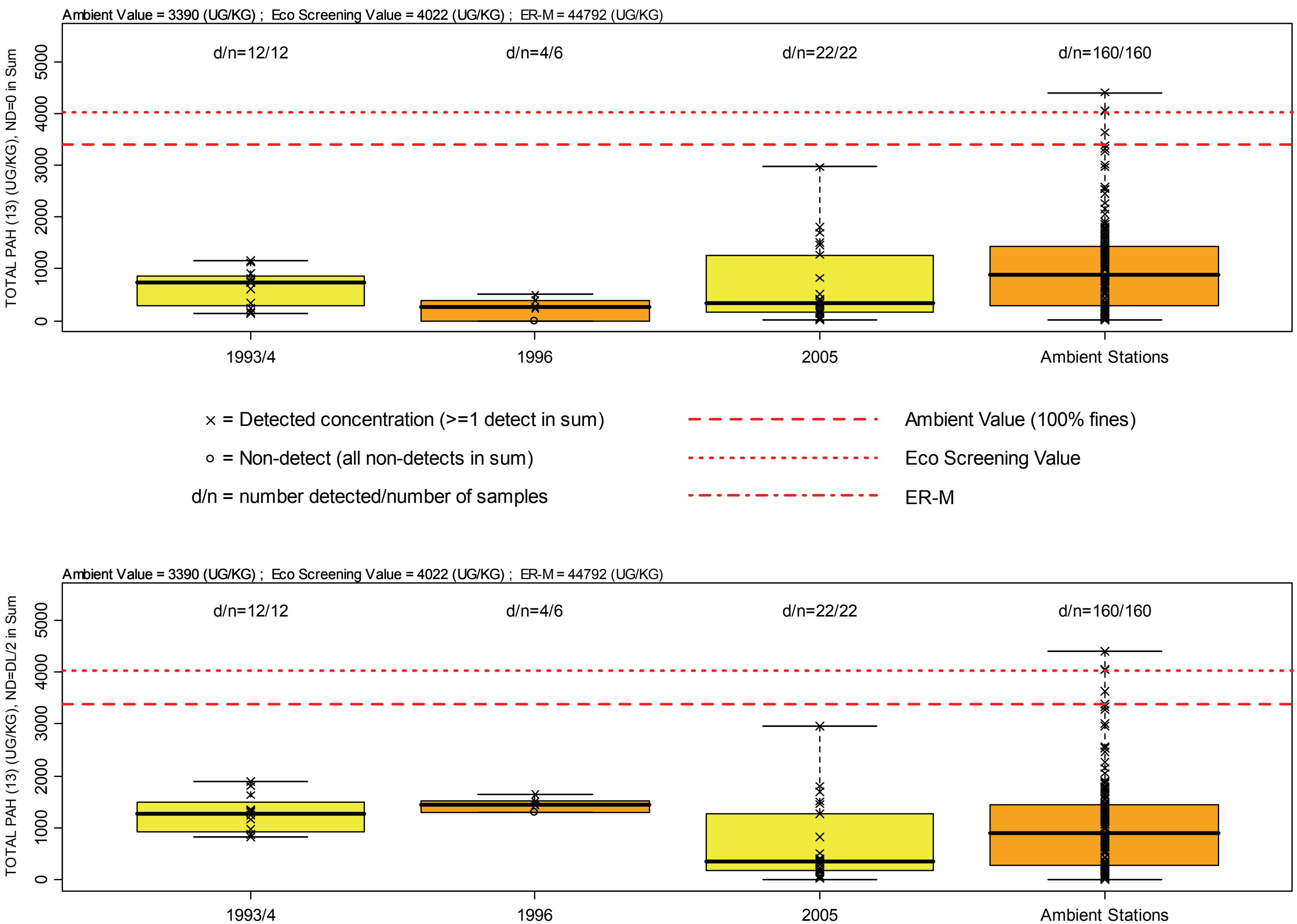
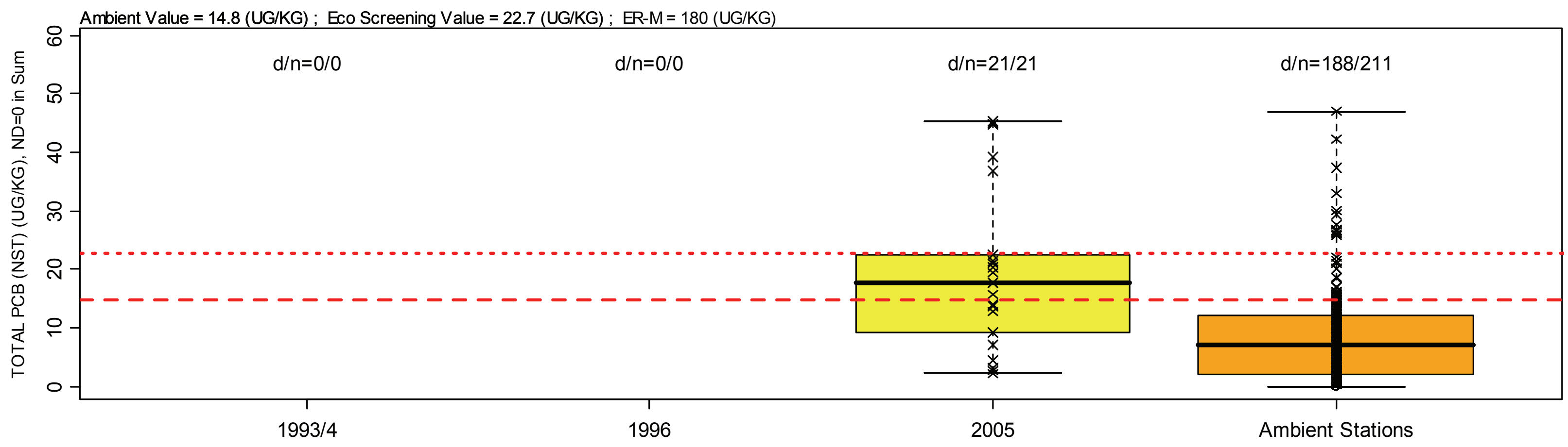


Figure A–57. Box Plots of Total PAH (13) in Western Bayside Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

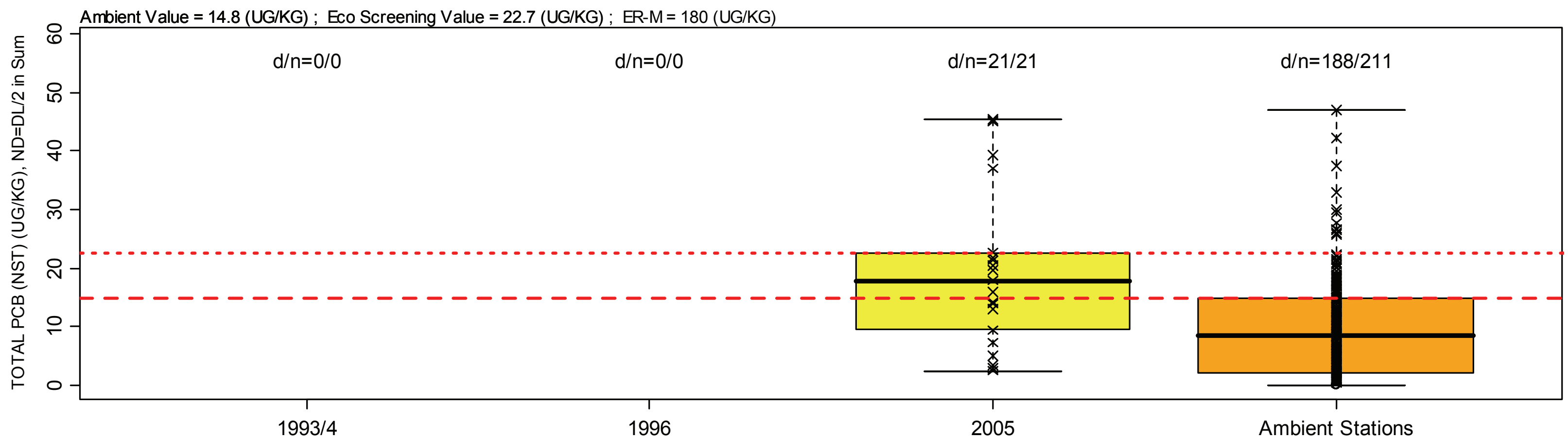


Figure A–58. Box Plots of Total PCB (NST) in Western Bayside Surface Sediment by Year.

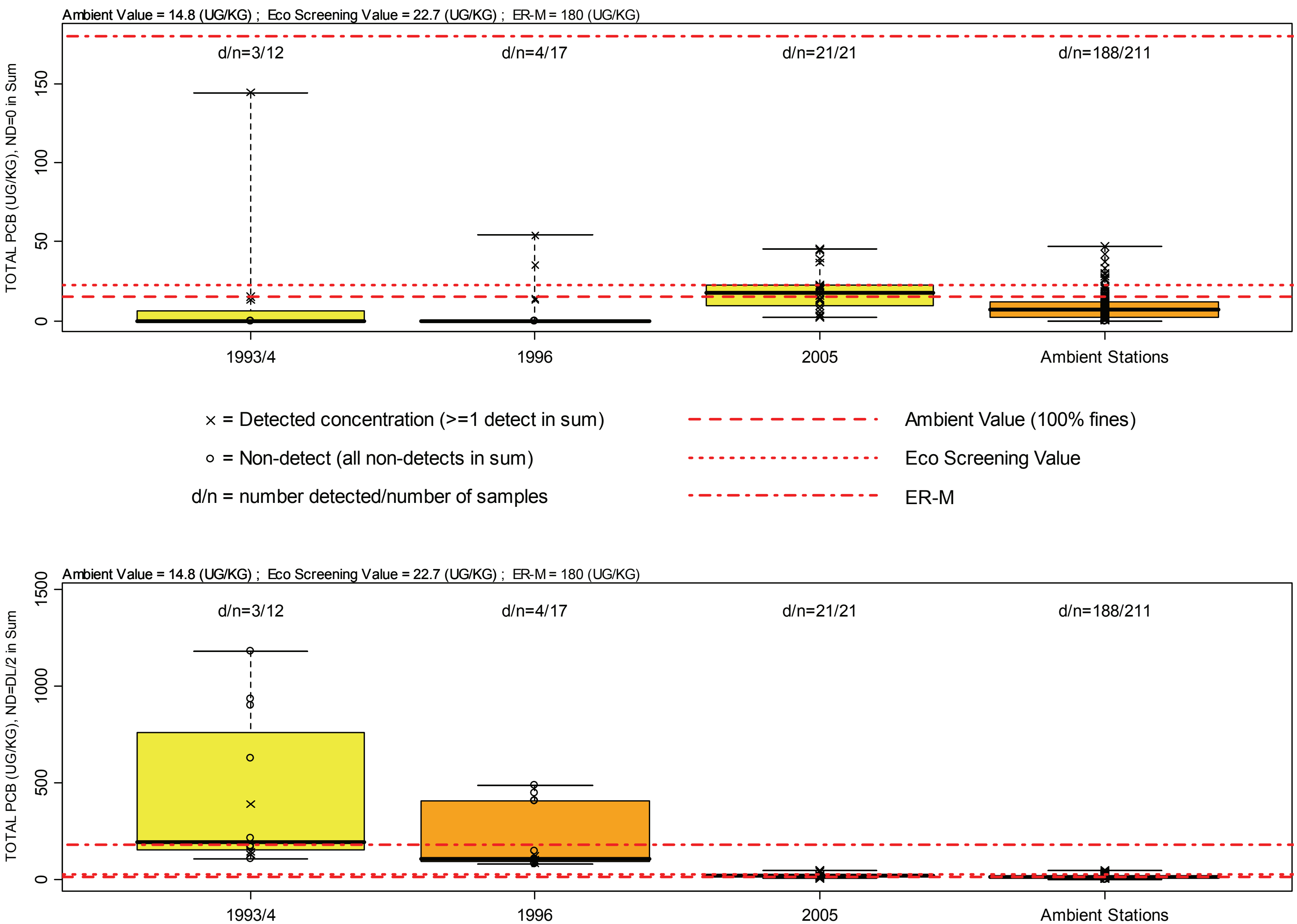


Figure A–59. Box Plots of Total PCB in Western Bayside Surface Sediment by Year.

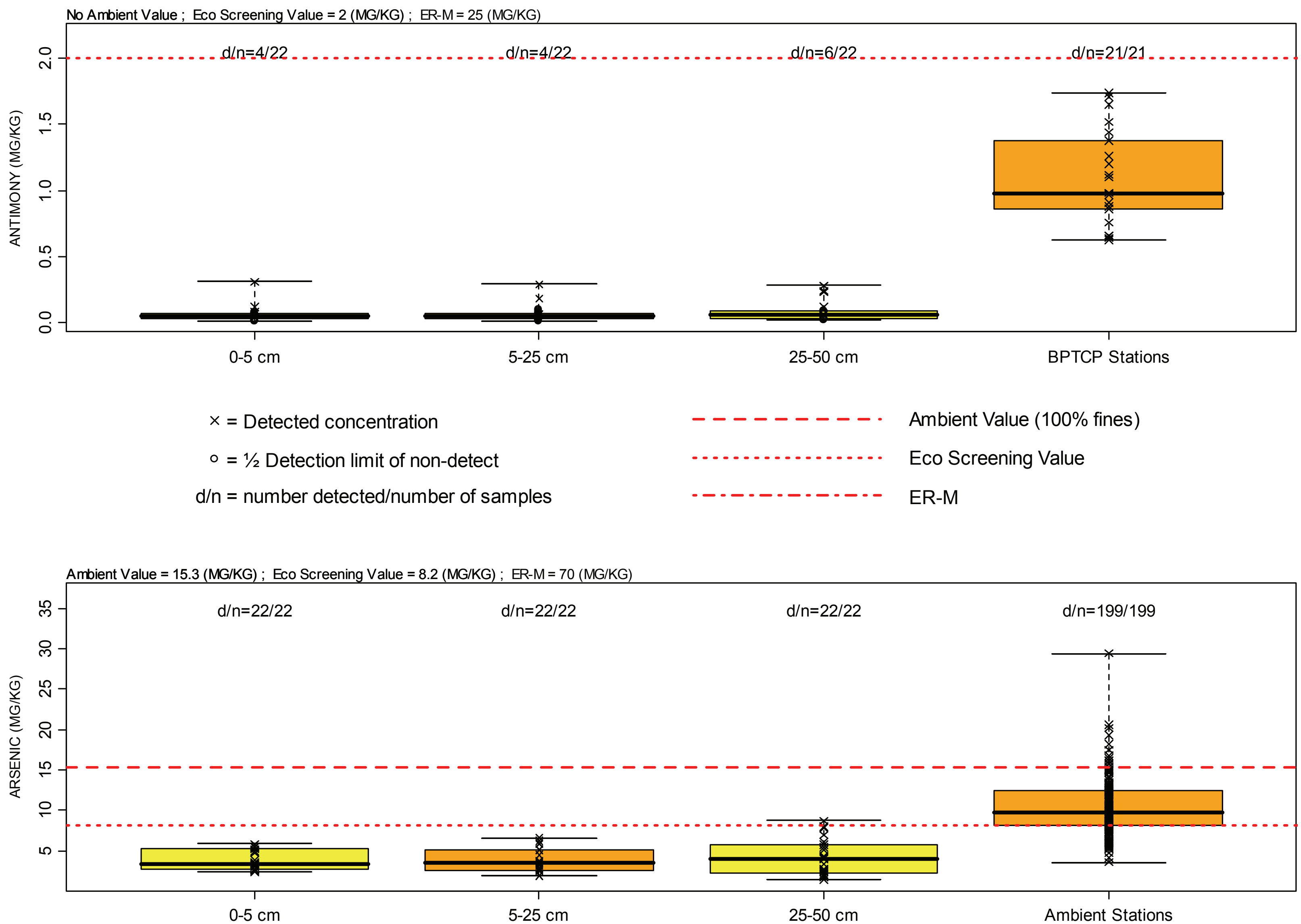


Figure A–60. Box Plots of Antimony and Arsenic Concentrations in Western Bayside (2005) by Depth.

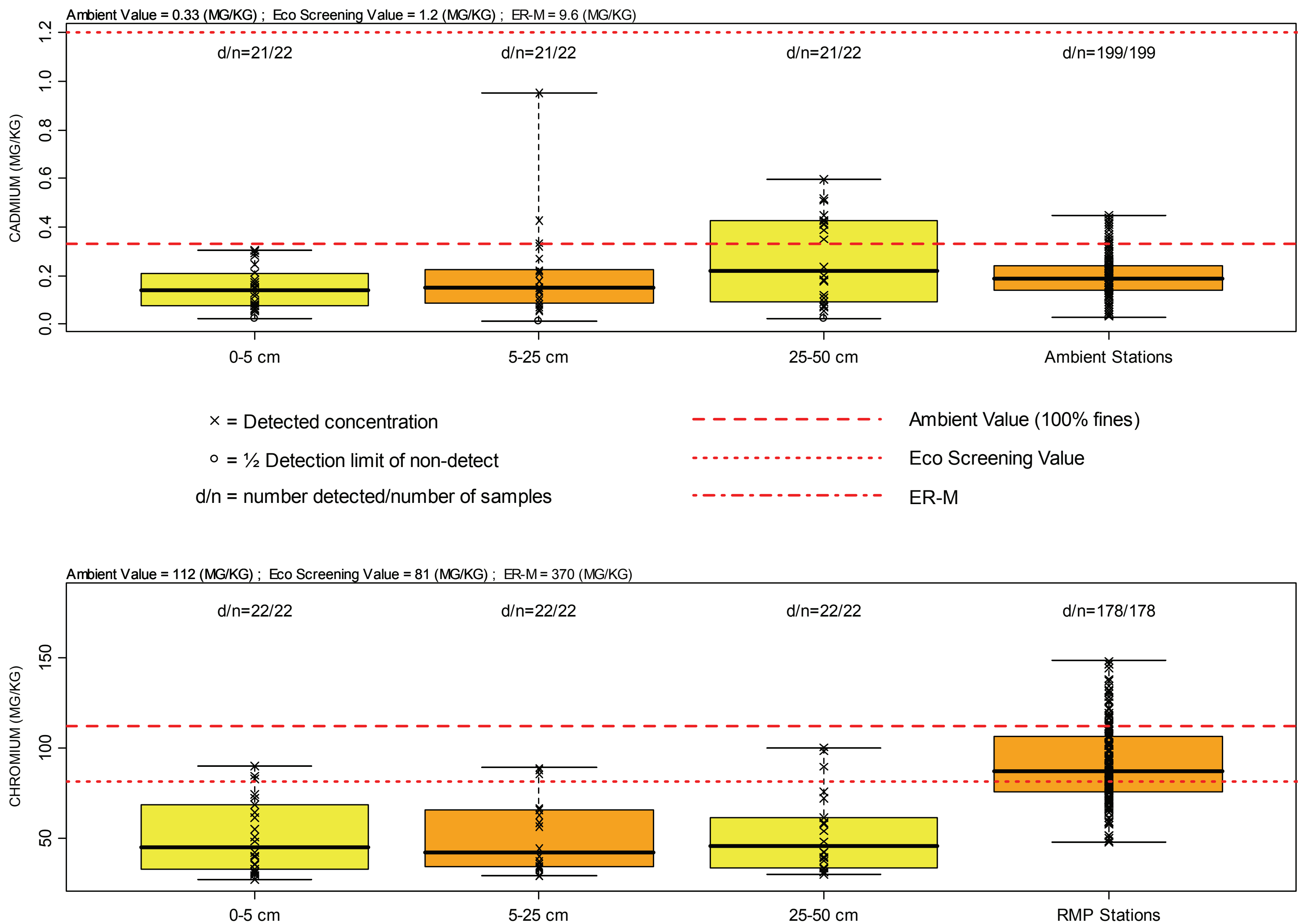


Figure A–61. Box Plots of Cadmium and Chromium Concentrations in Western Bayside (2005) by Depth.

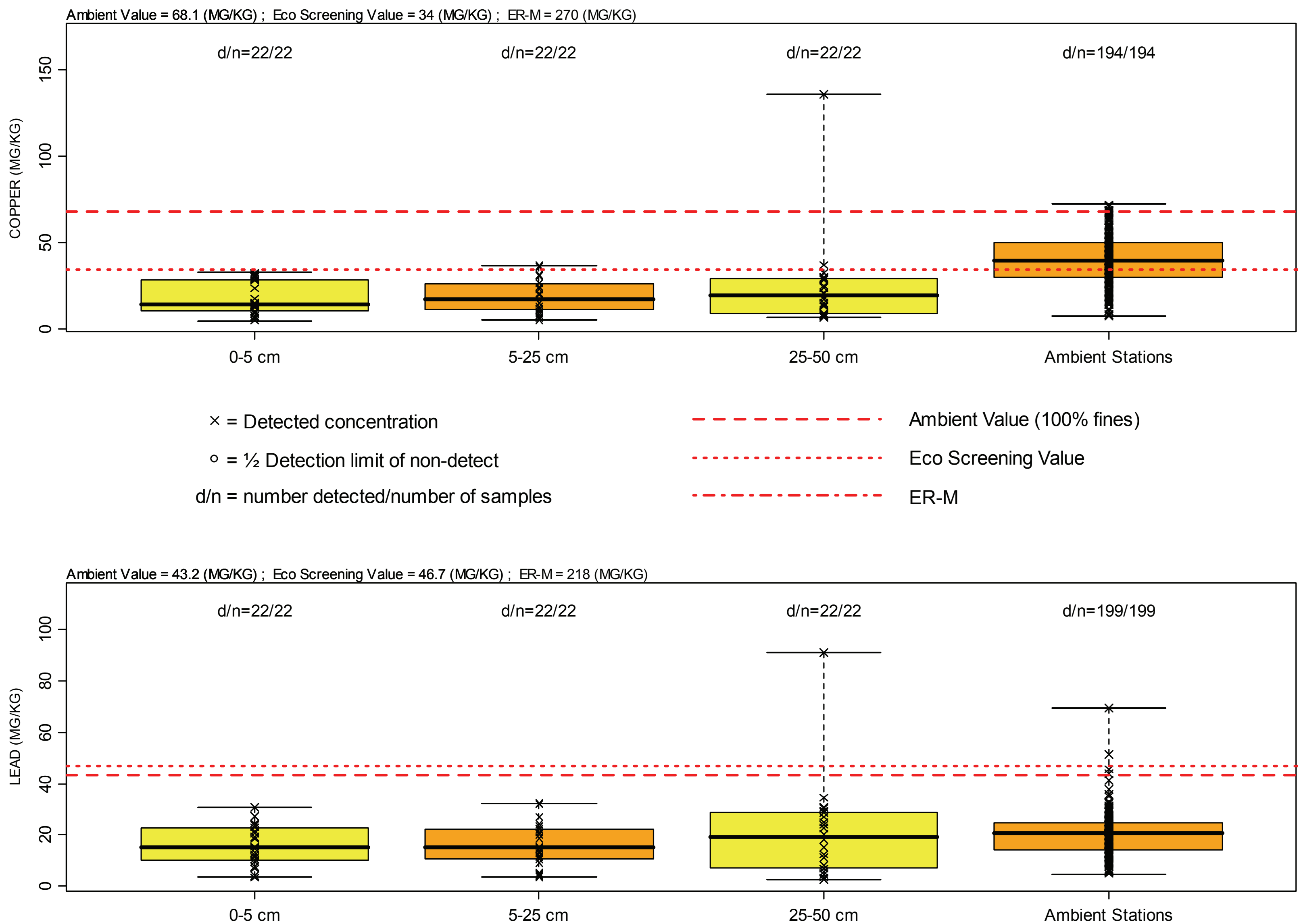


Figure A–62. Box Plots of Copper and Lead Concentrations in Western Bayside (2005) by Depth.

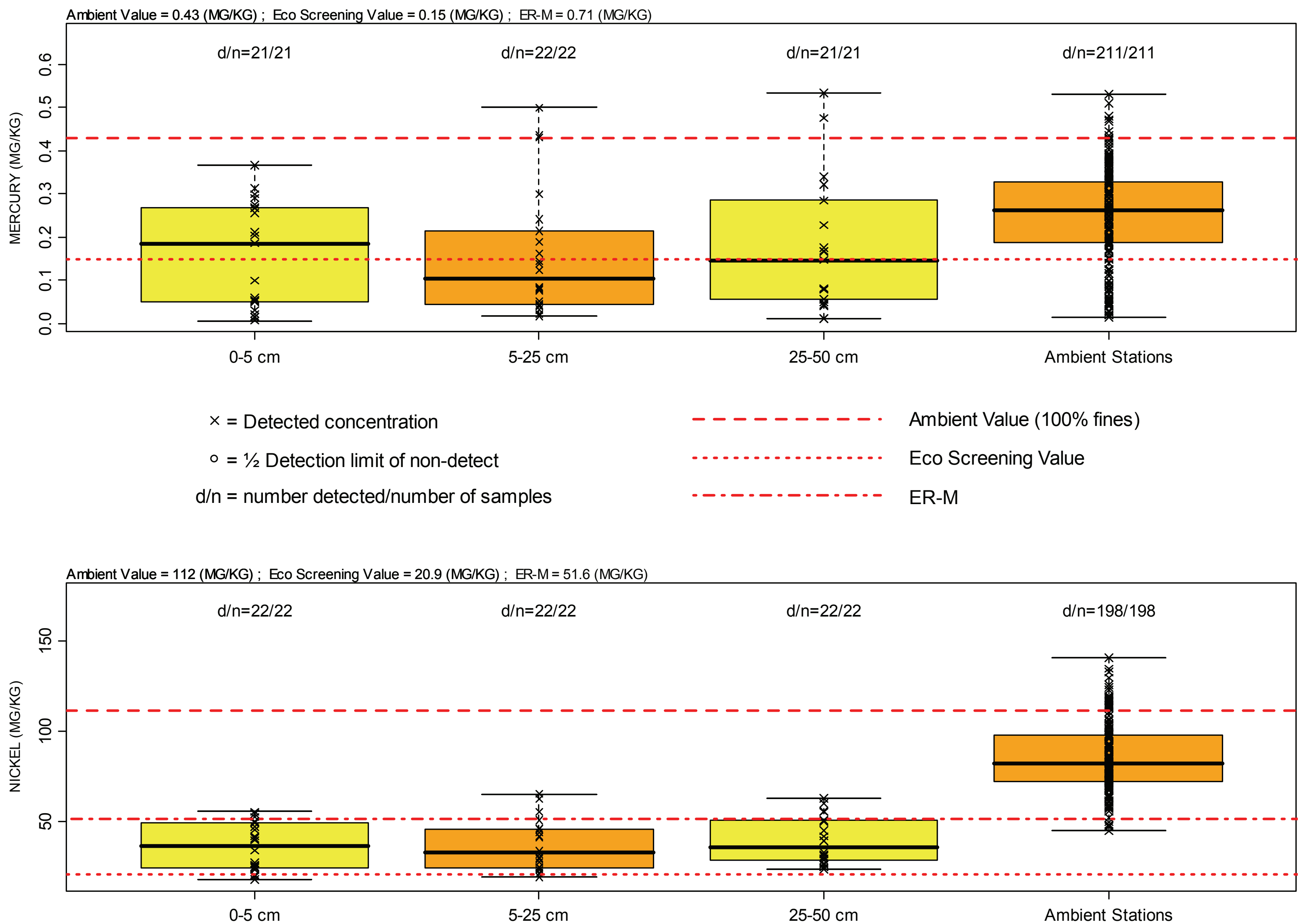


Figure A–63. Box Plots of Mercury and Nickel Concentrations in Western Bayside (2005) by Depth.

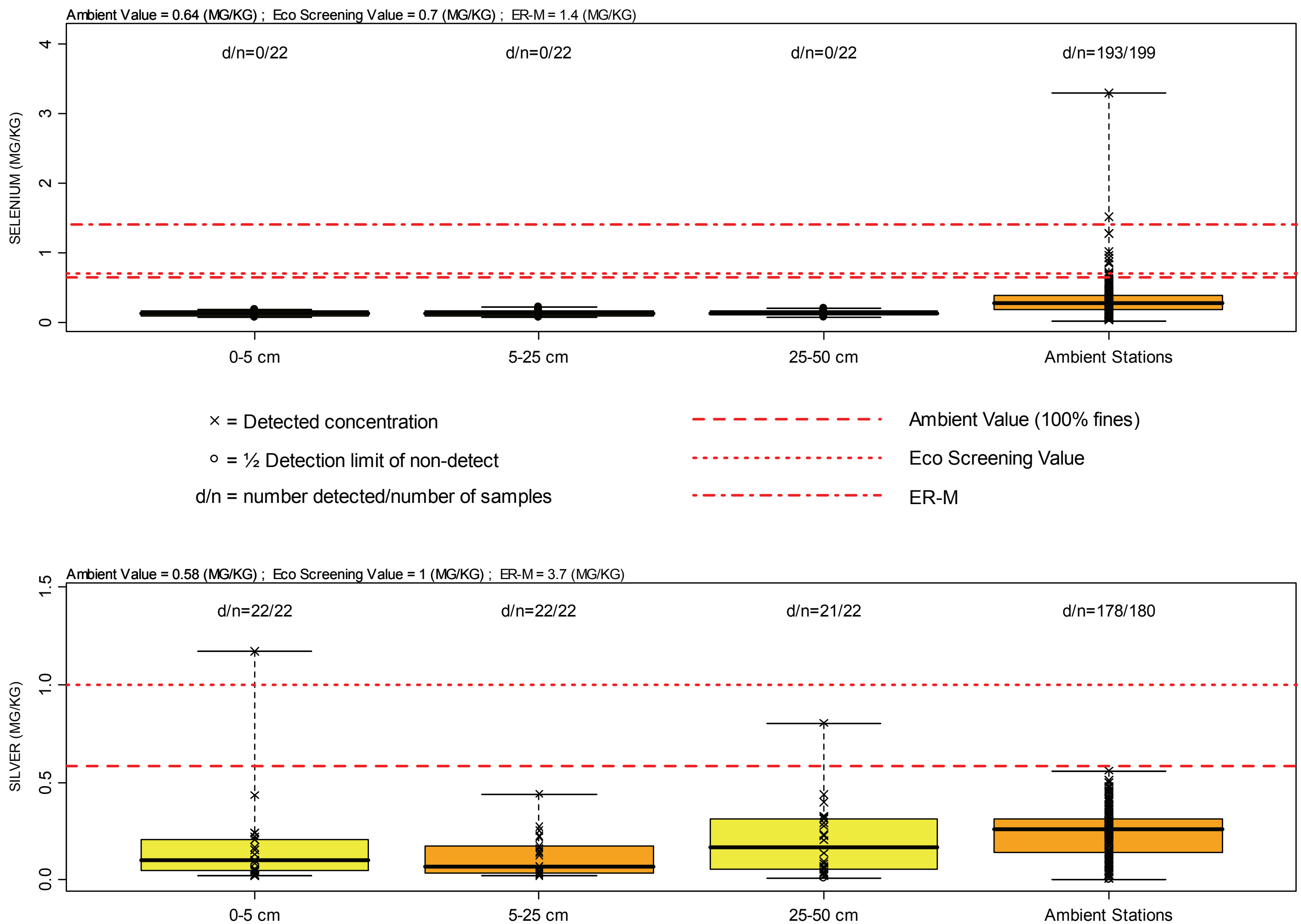


Figure A–64. Box Plots of Selenium and Silver Concentrations in Western Bayside (2005) by Depth.

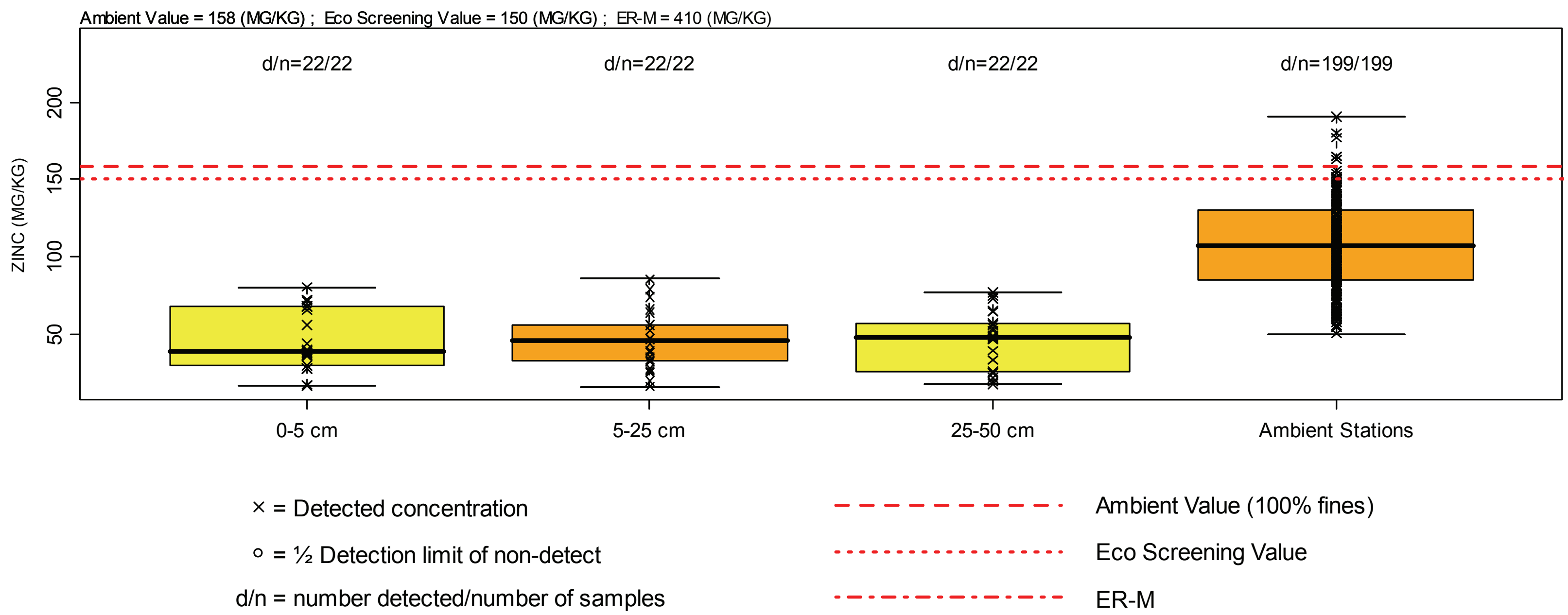


Figure A–65. Box Plots of Zinc Concentrations in Western Bayside (2005) by Depth.

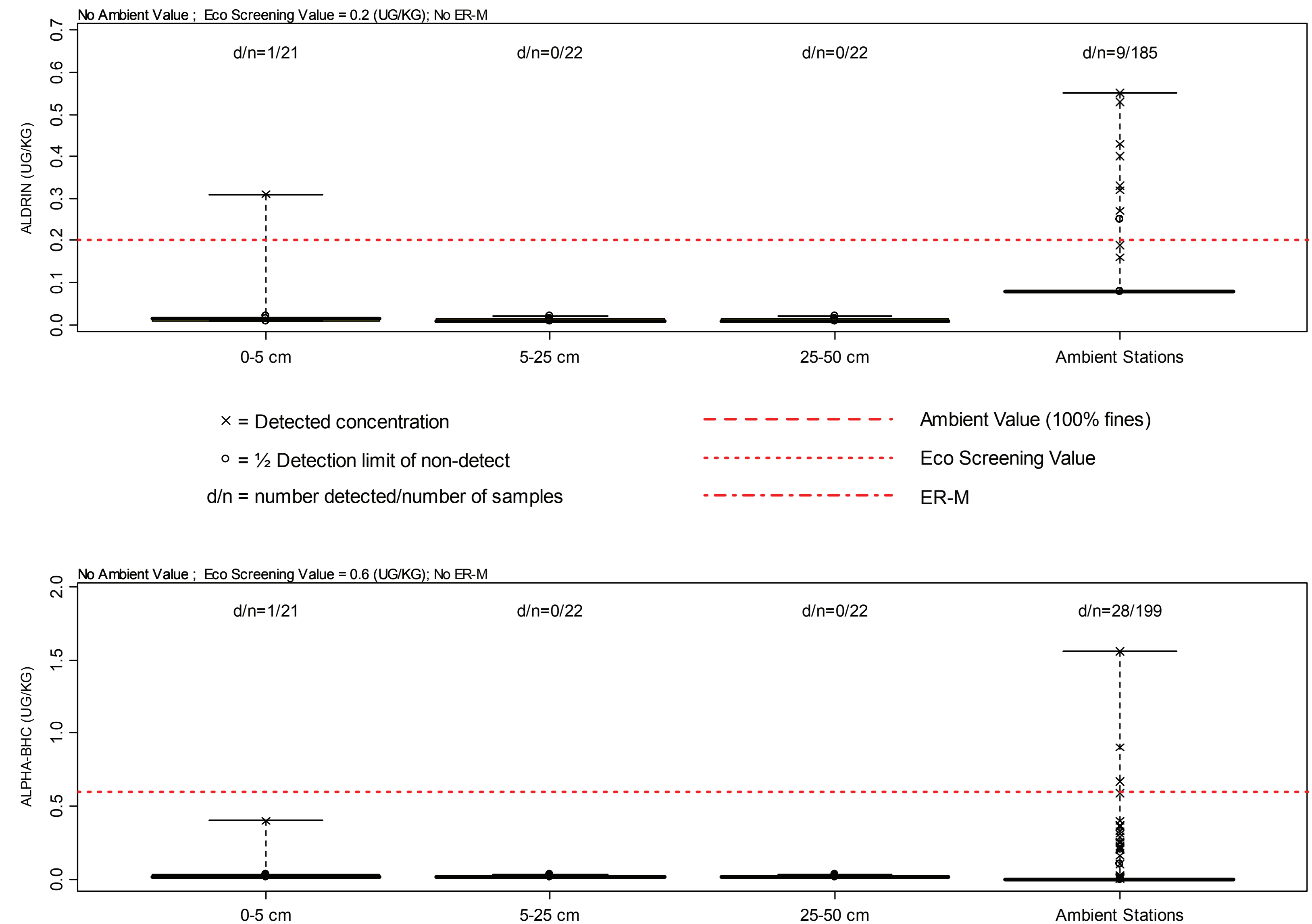


Figure A–66. Box Plots of Aldrin and *alpha*-BHC Concentrations in Western Bayside (2005) by Depth.

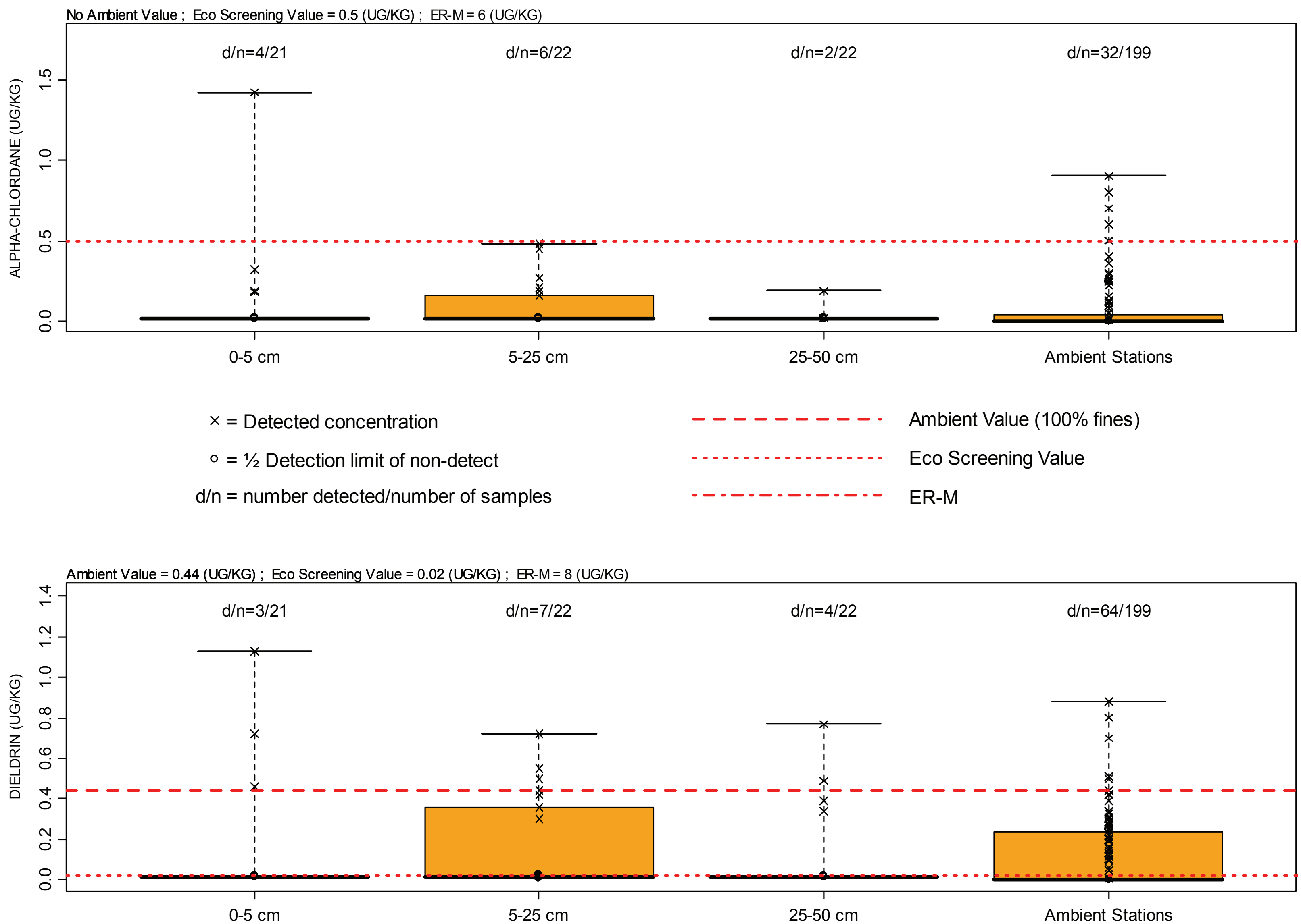


Figure A–67. Box Plots of *alpha*-Chlordane and Dieldrin Concentrations in Western Bayside (2005) by Depth.

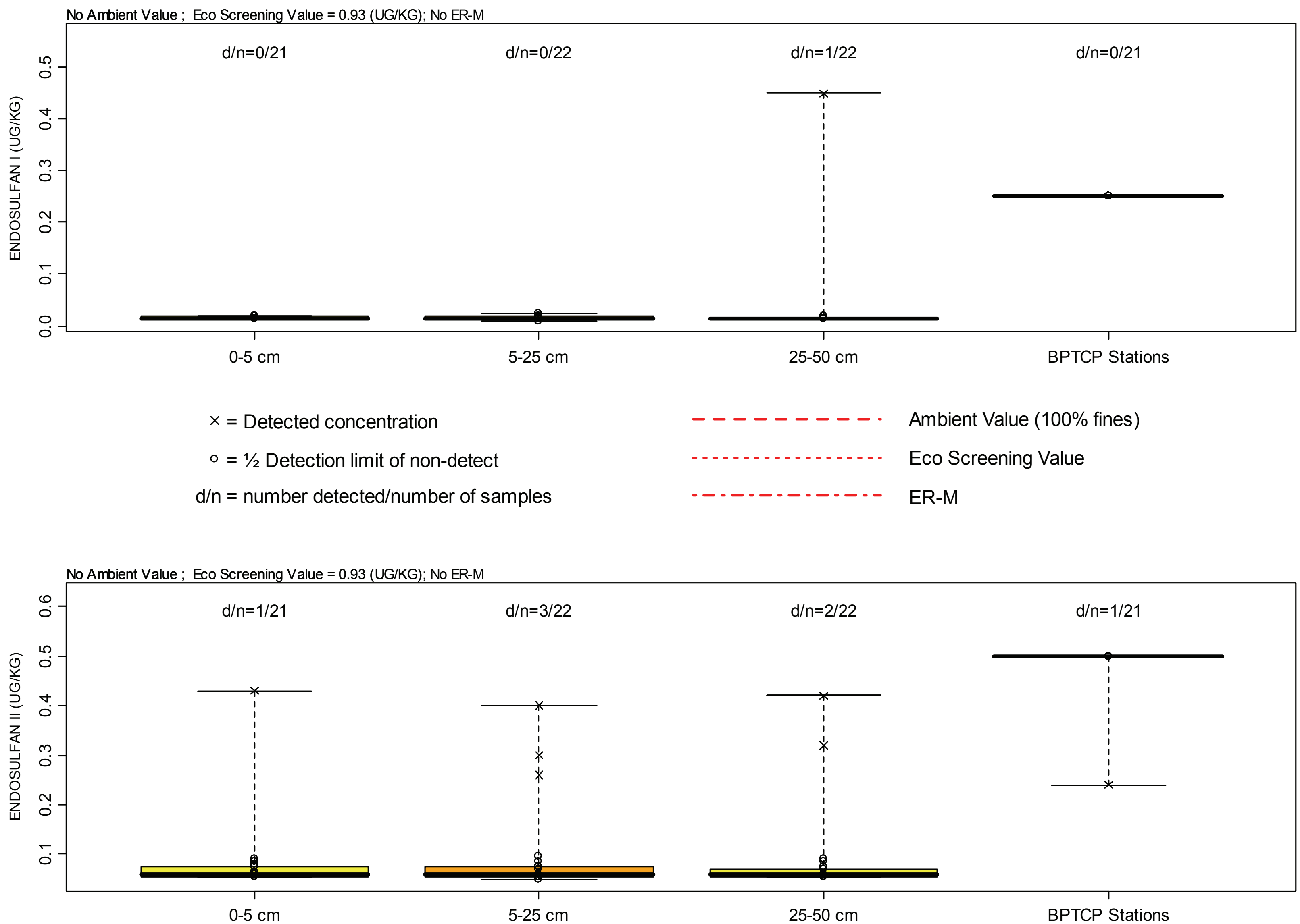


Figure A–68. Box Plots of Endosulfan I and Endosulfan II Concentrations in Western Bayside (2005) by Depth.

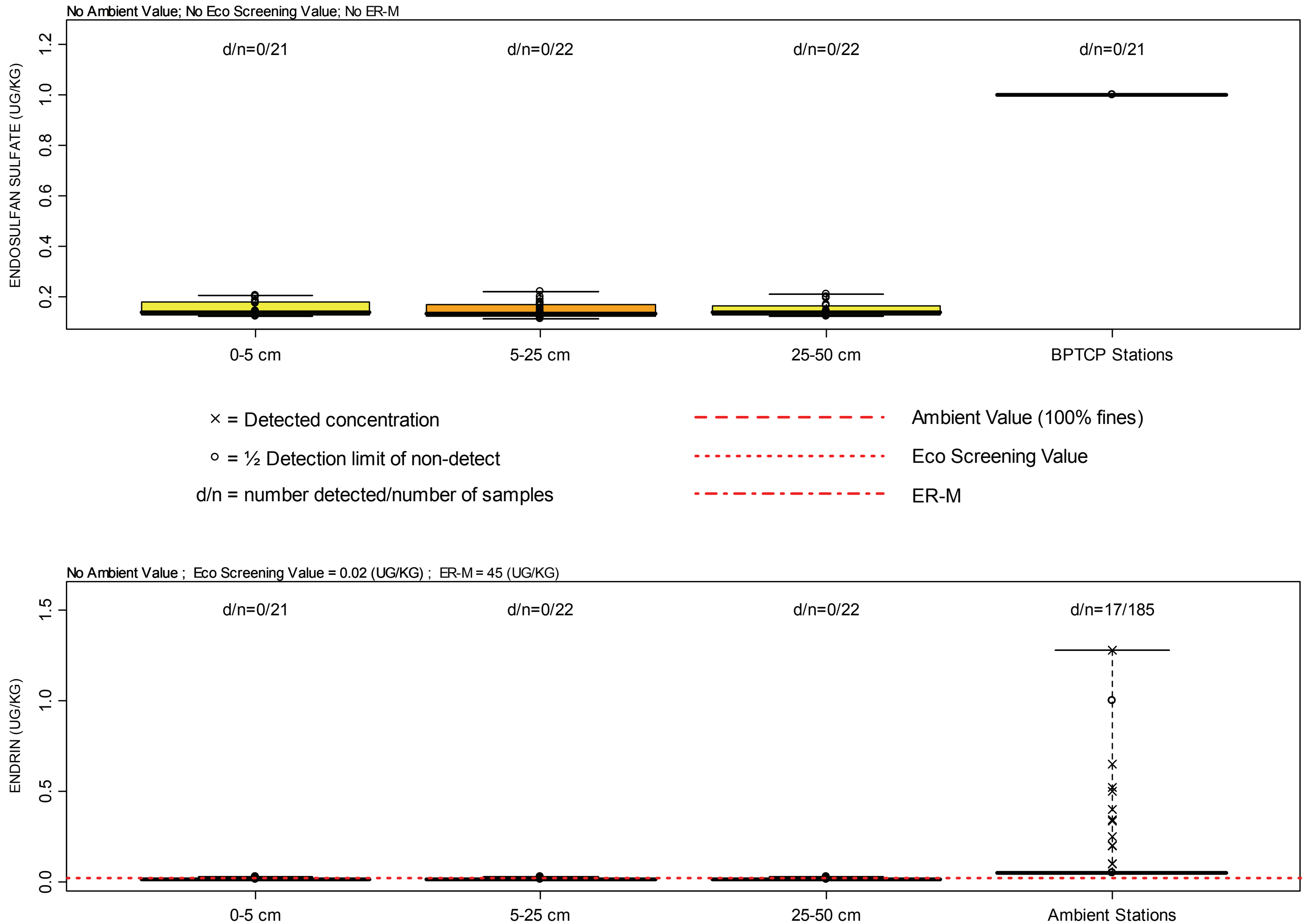


Figure A–69. Box Plots of Endosulfan Sulfate and Endrin Concentrations in Western Bayside (2005) by Depth.

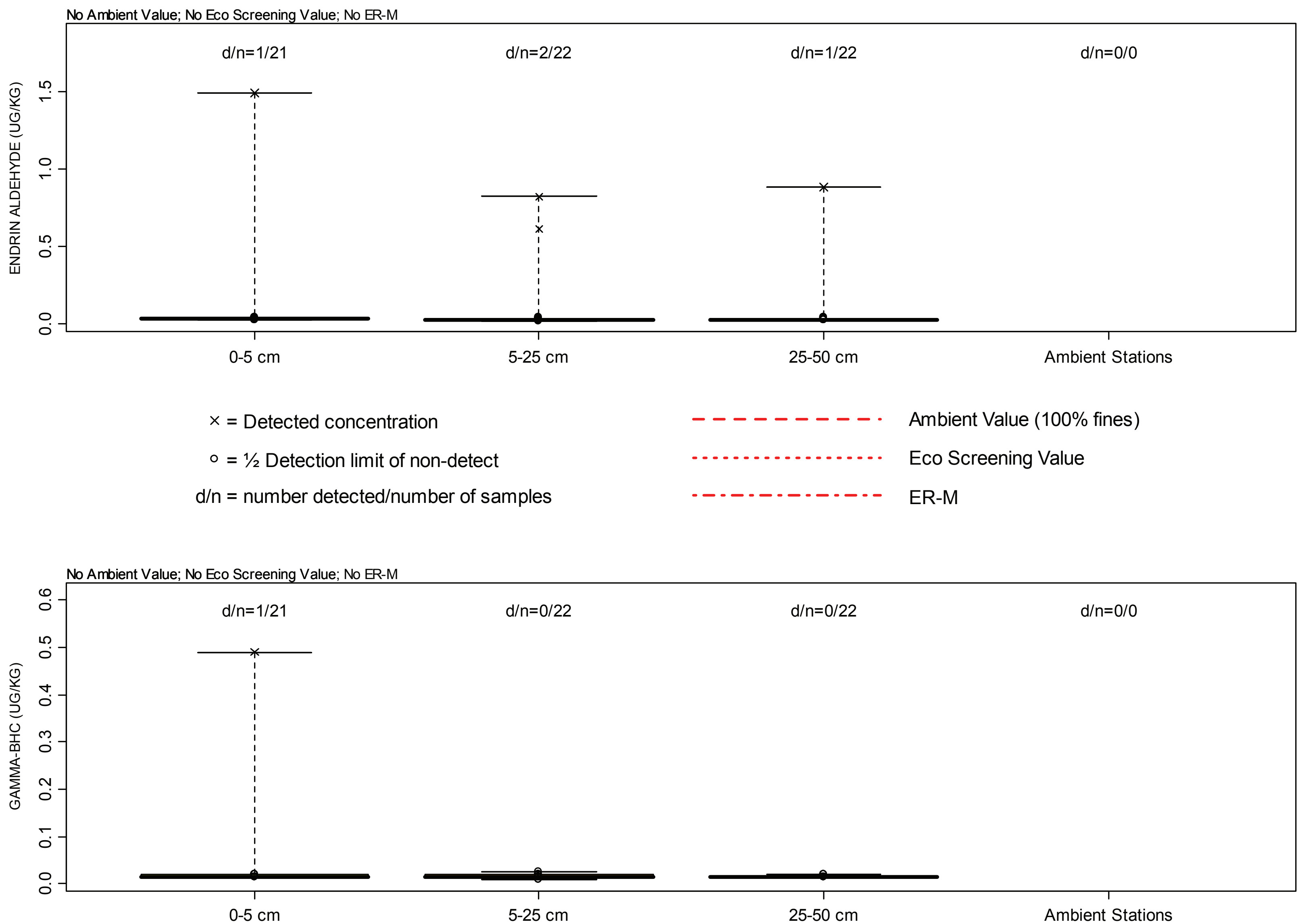


Figure A–70. Box Plots of Endrin Aldehyde and *gamma*-BHC Concentrations in Western Bayside (2005) by Depth.

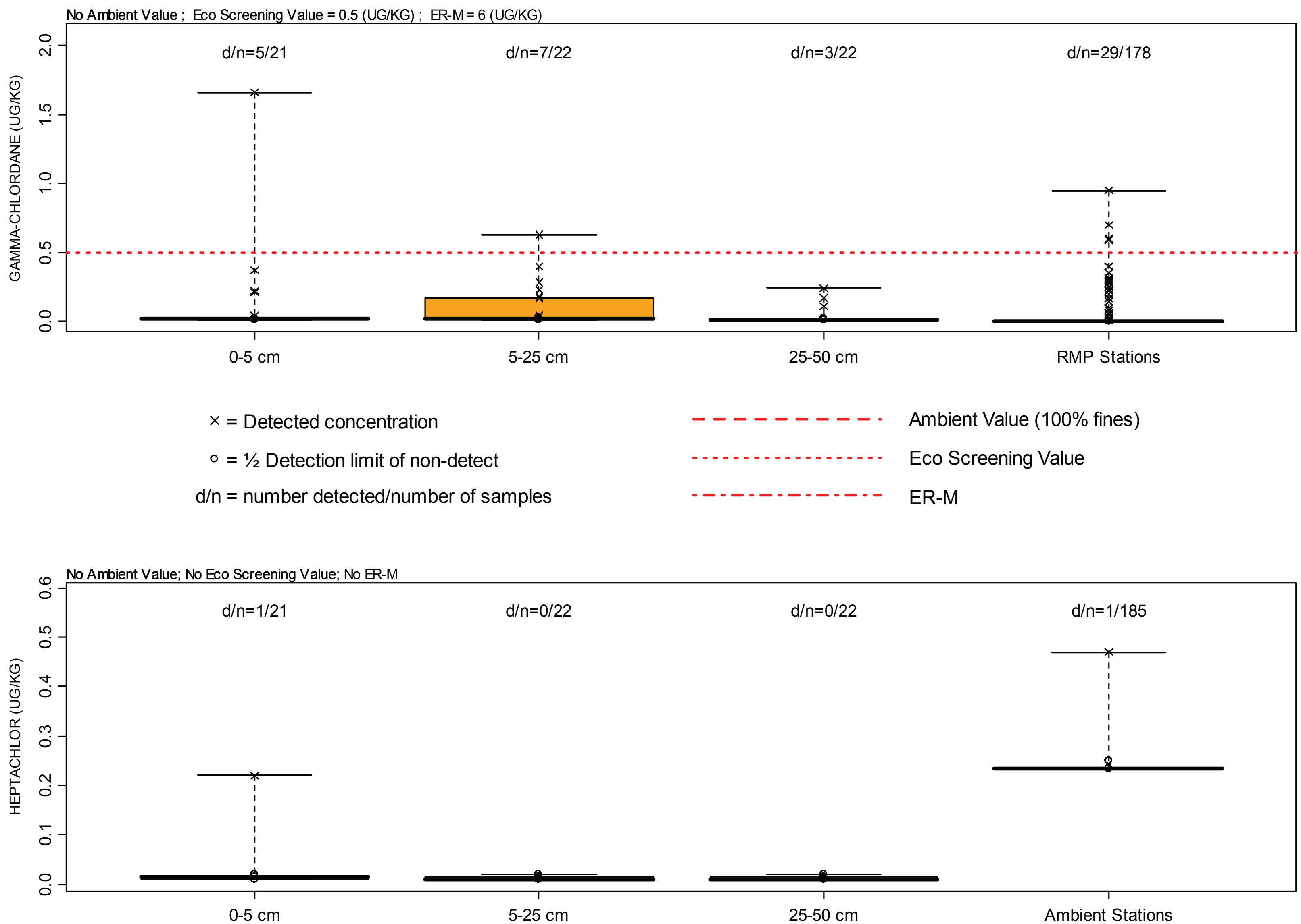


Figure A–71. Box Plots of *gamma*-Chlordane and Heptachlor Concentrations in Western Bayside (2005) by Depth.

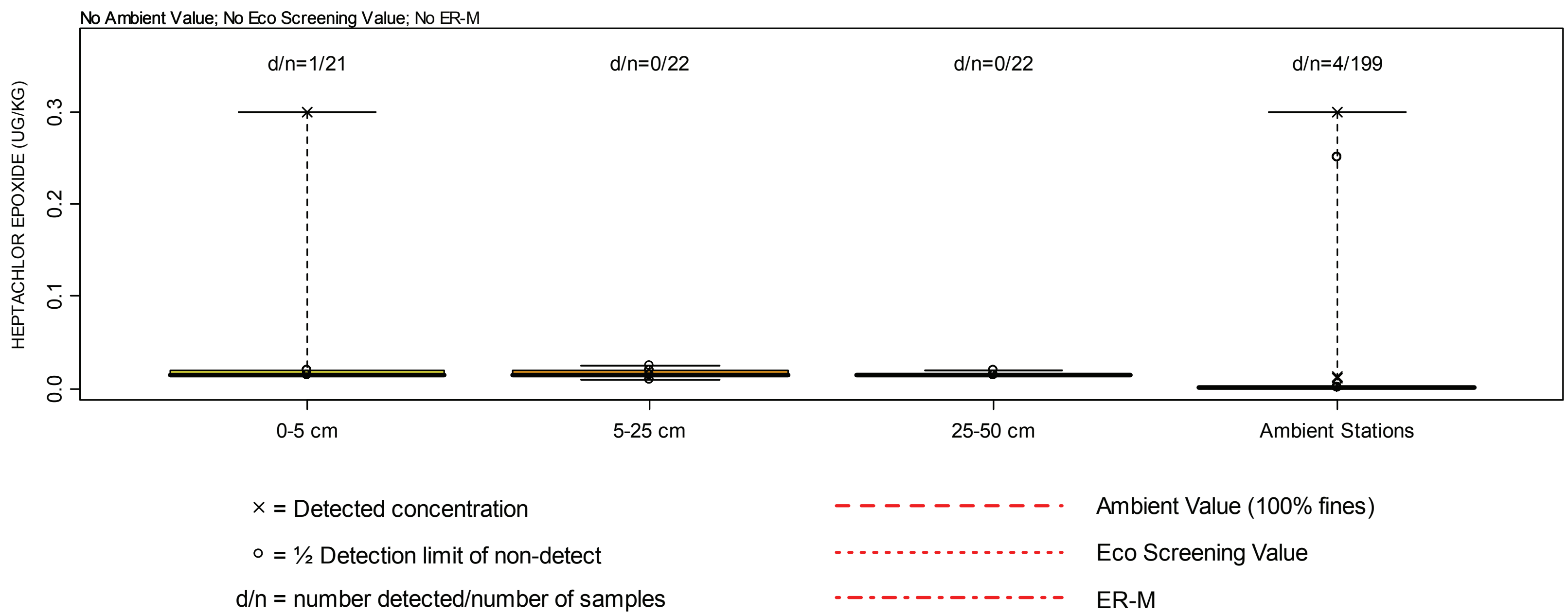


Figure A–72. Box Plots of Heptacholor Epoxide Concentrations in Western Bayside (2005) by Depth.

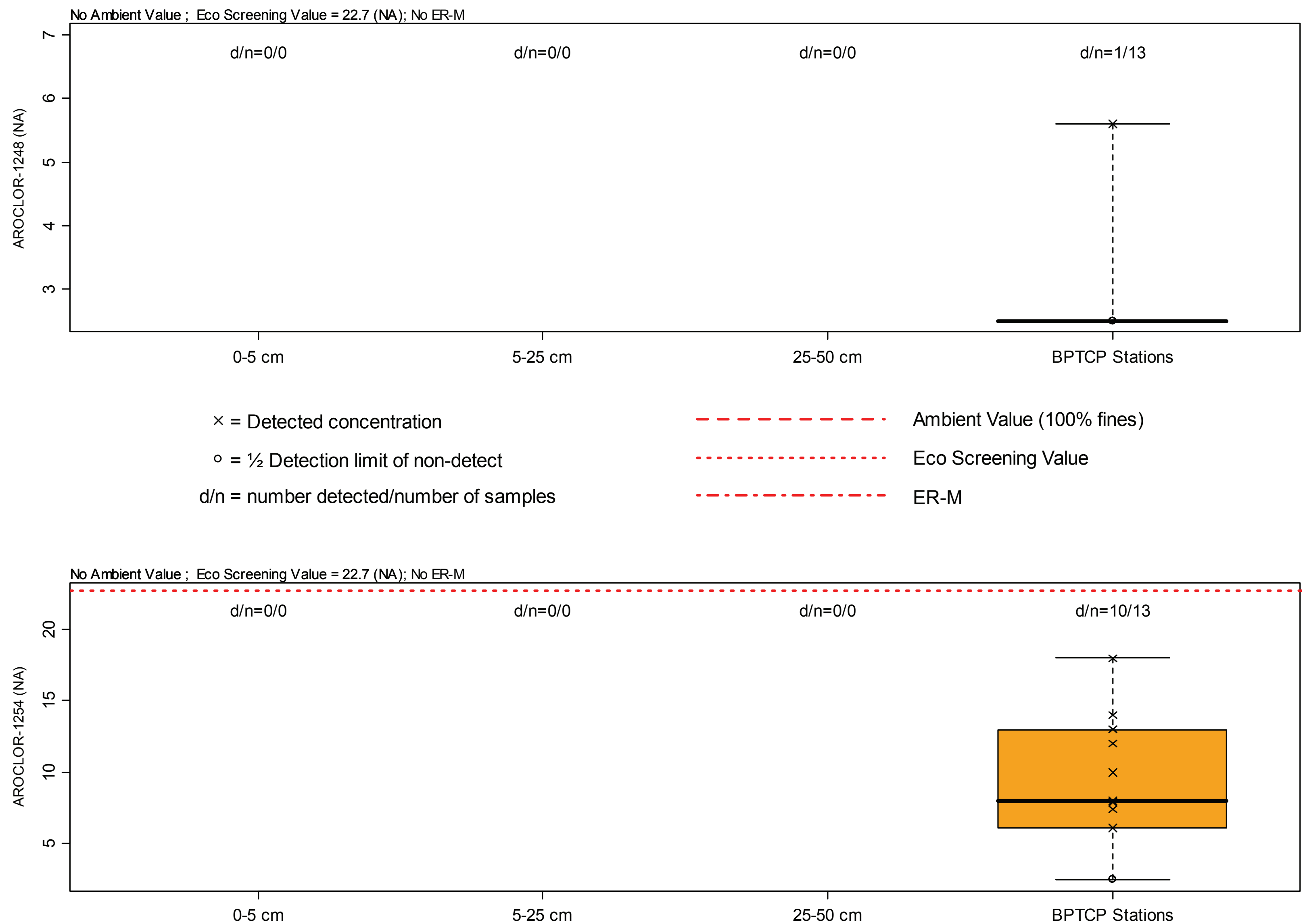


Figure A–73. Box Plots of Aroclor-1248 and Aroclor-1254 Concentrations in Western Bayside (2005) by Depth.

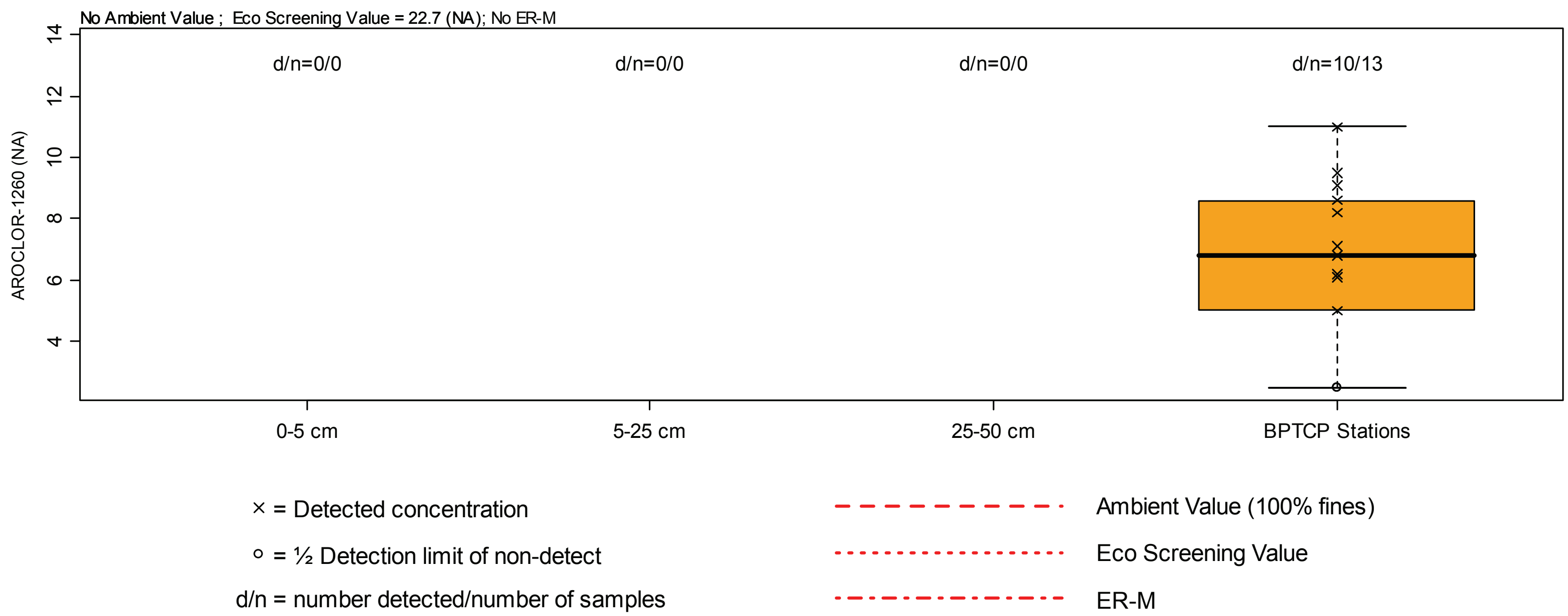


Figure A–74. Box Plots of Aroclor-1260 Concentrations in Western Bayside (2005) by Depth.

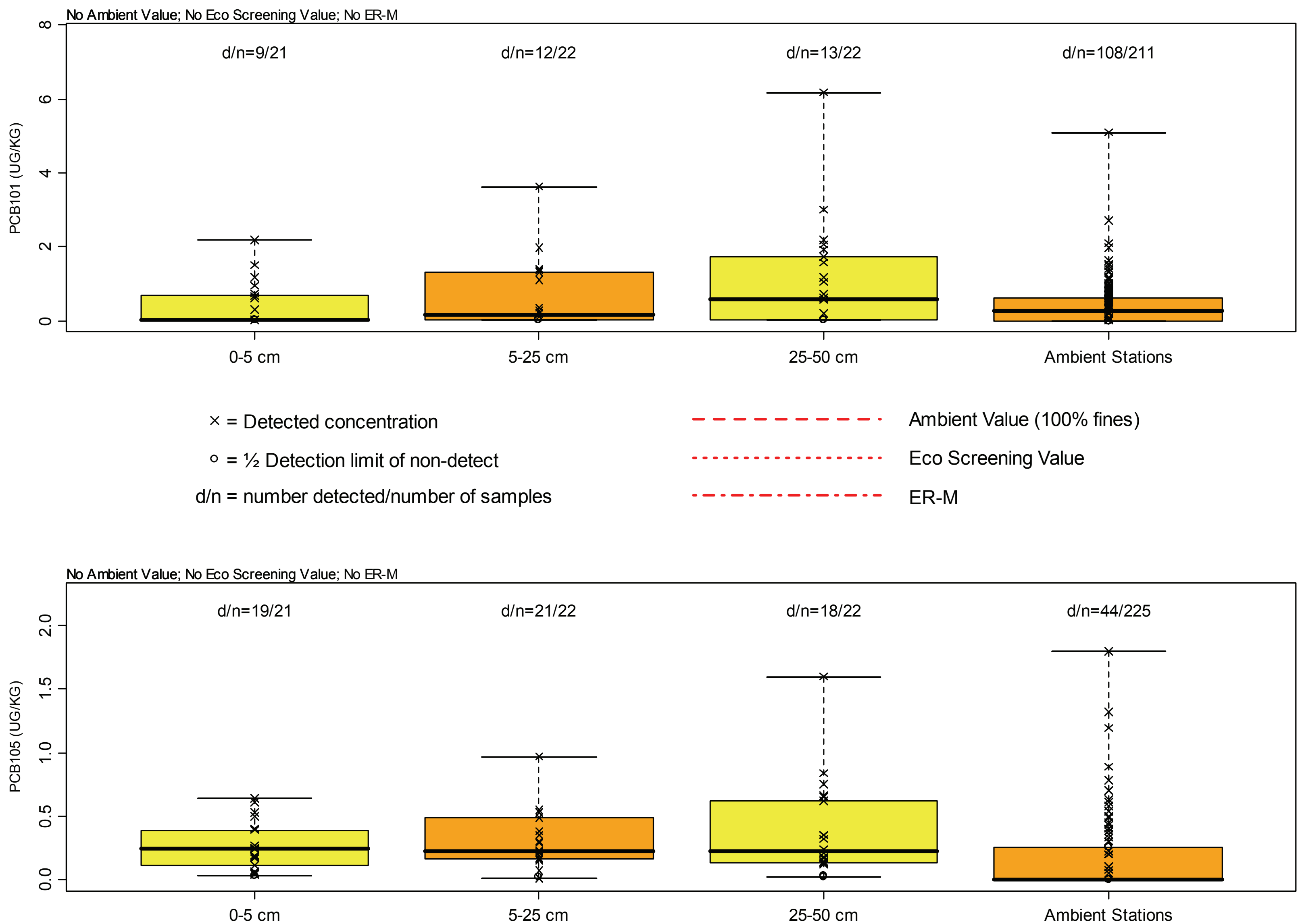


Figure A–75. Box Plots of PCB101 and PCB105 Concentrations in Western Bayside (2005) by Depth.

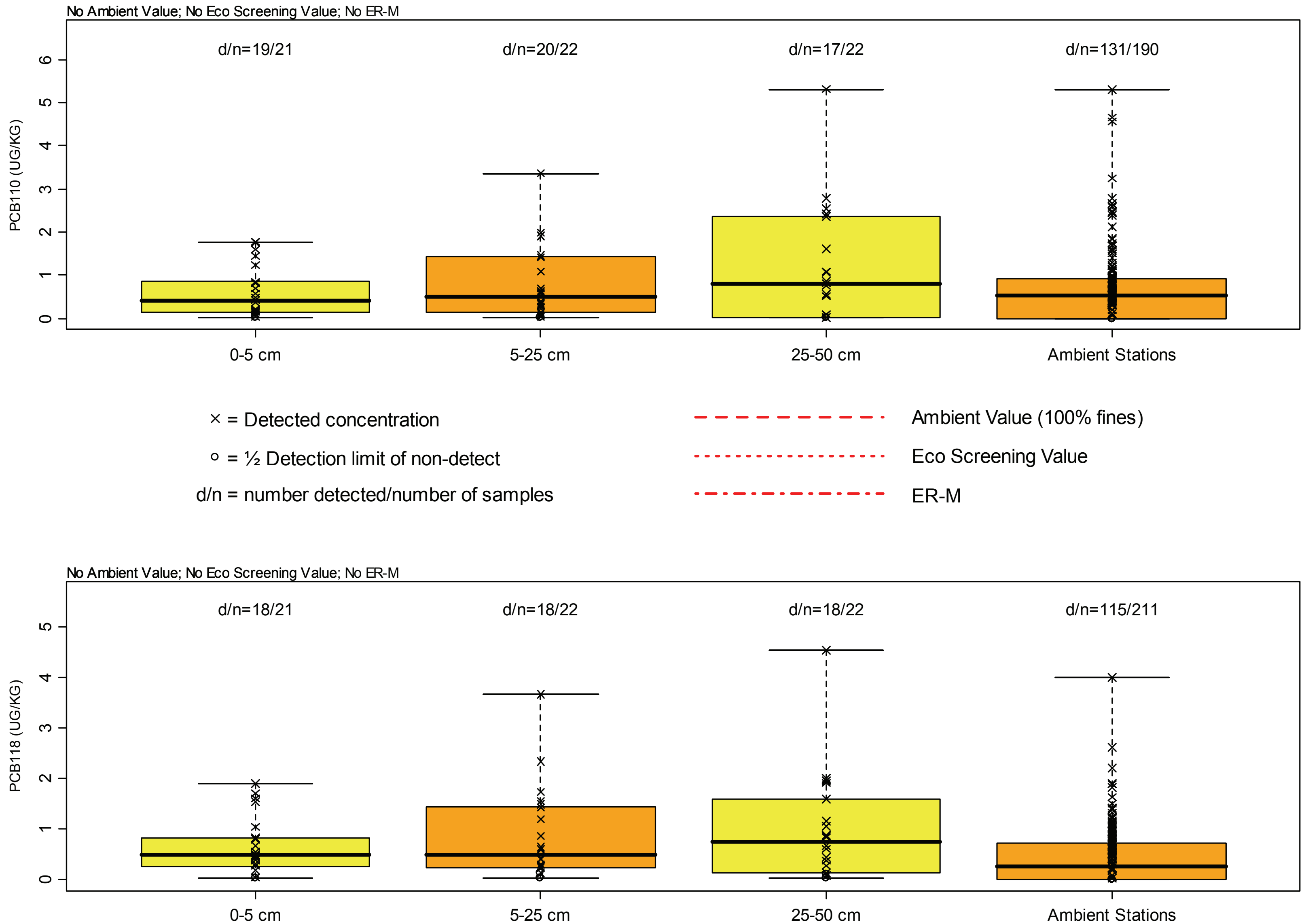
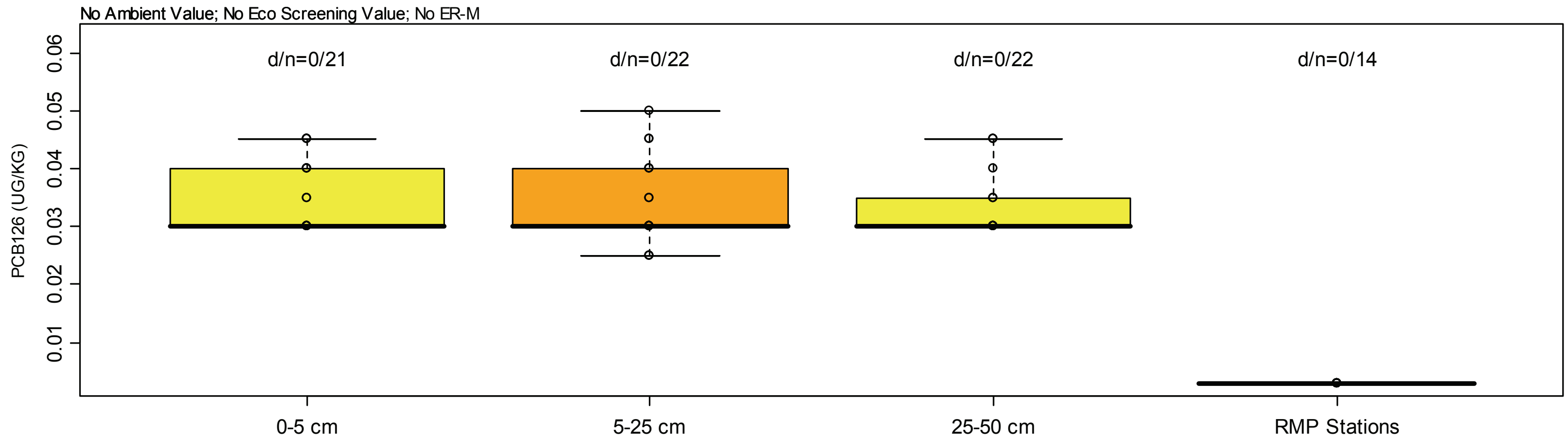


Figure A–76. Box Plots of PCB110 and PCB118 Concentrations in Western Bayside (2005) by Depth.



× = Detected concentration
○ = ½ Detection limit of non-detect
d/n = number detected/number of samples

Ambient Value (100% fines)
Eco Screening Value
ER-M

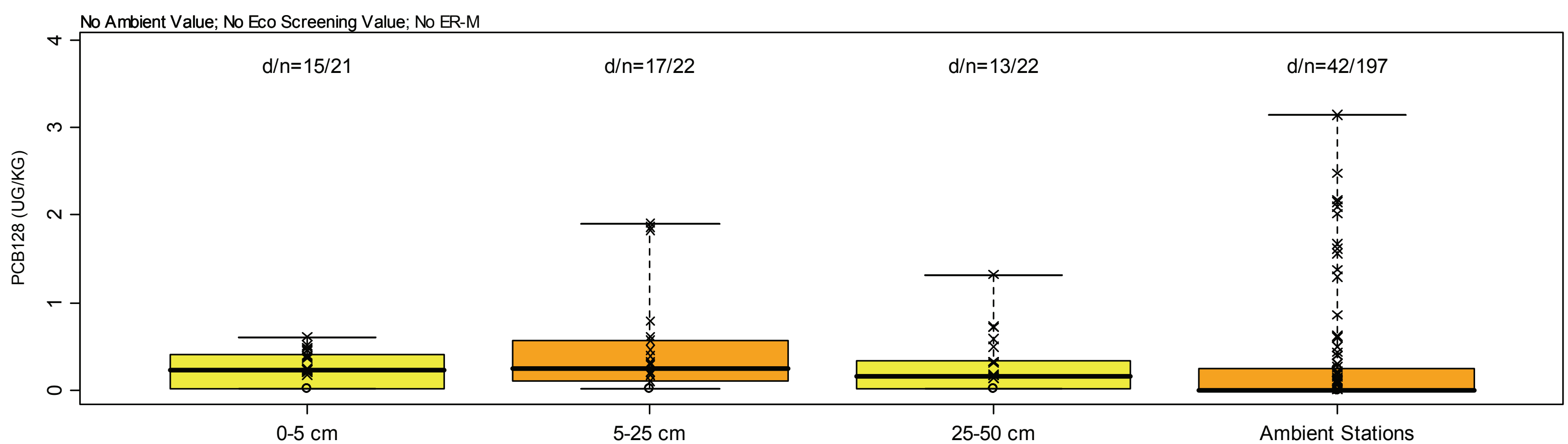


Figure A–77. Box Plots of PCB126 and PCB128 Concentrations in Western Bayside (2005) by Depth.

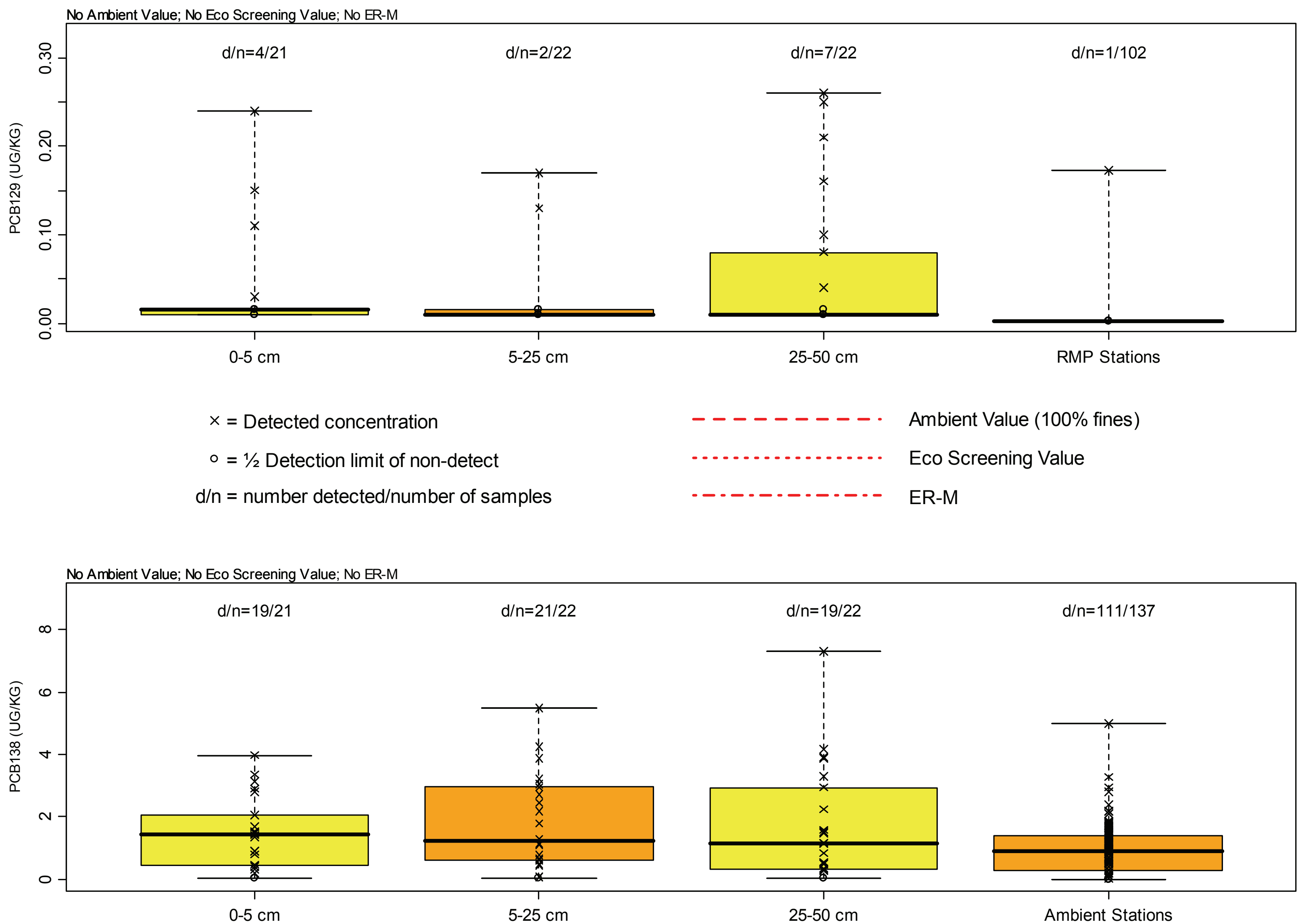


Figure A–78. Box Plots of PCB129 and PCB138 Concentrations in Western Bayside (2005) by Depth.

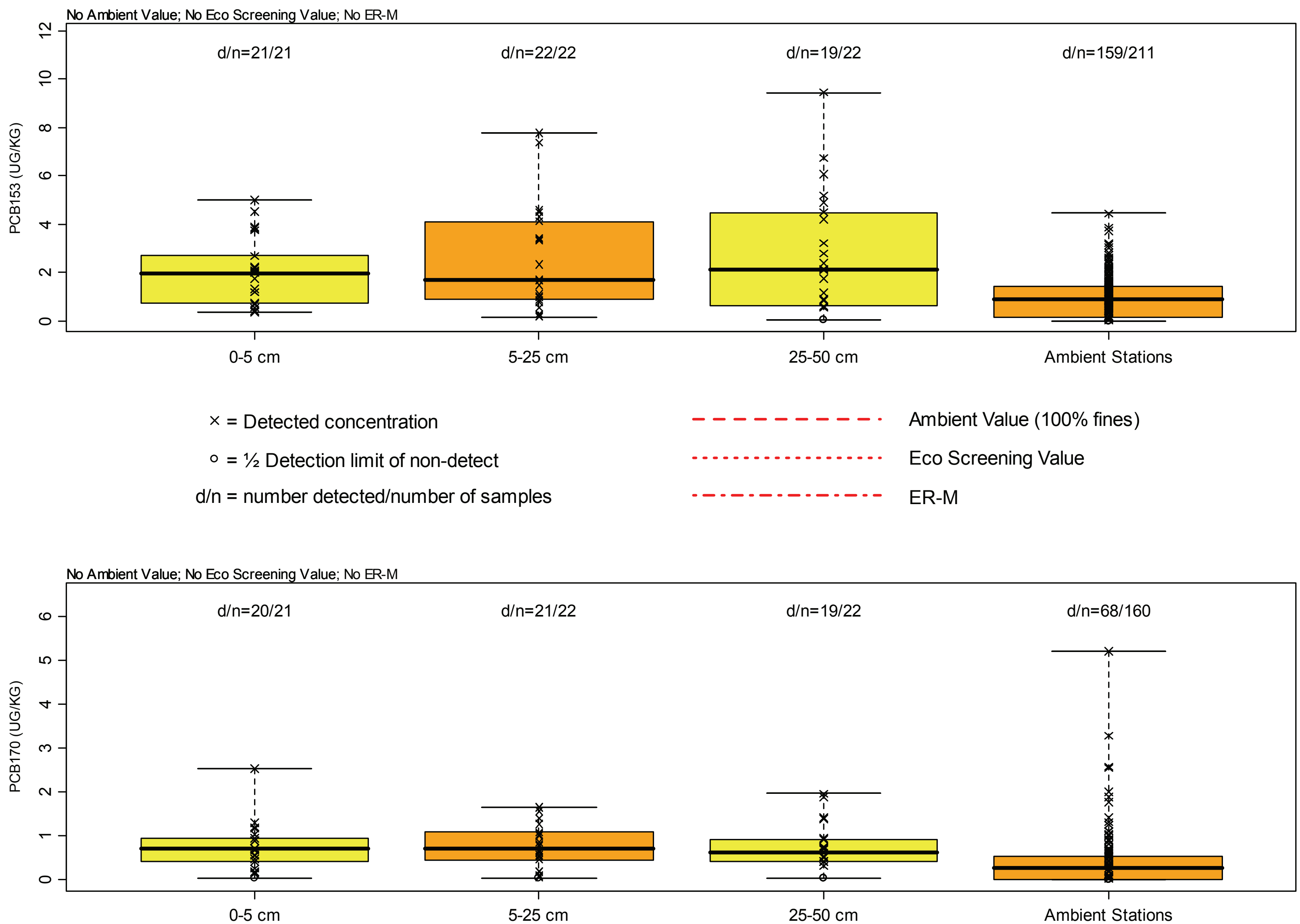


Figure A–79. Box Plots of PCB153 and PCB170 Concentrations in Western Bayside (2005) by Depth.

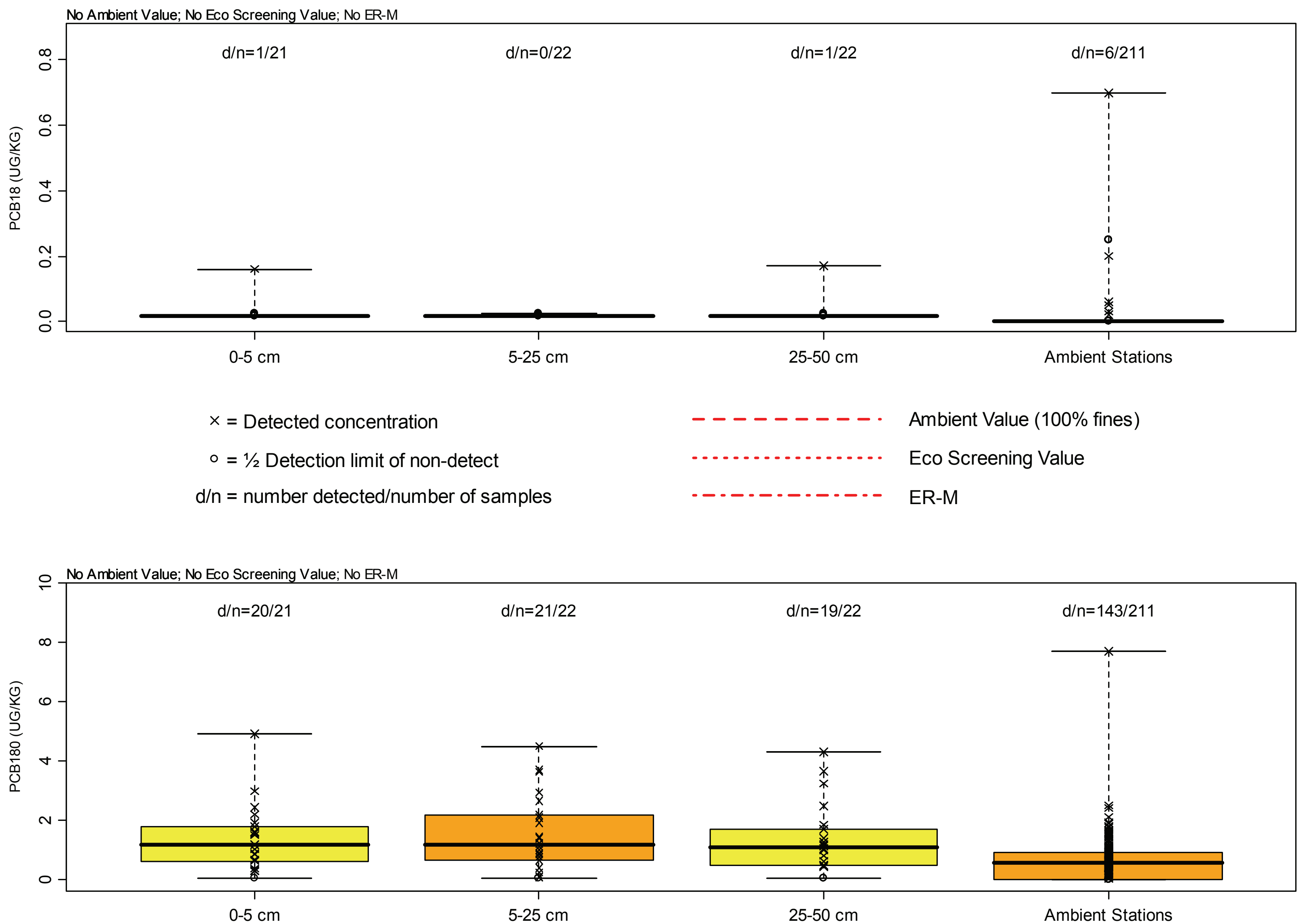


Figure A–80. Box Plots of PCB18 and PCB180 Concentrations in Western Bayside (2005) by Depth.

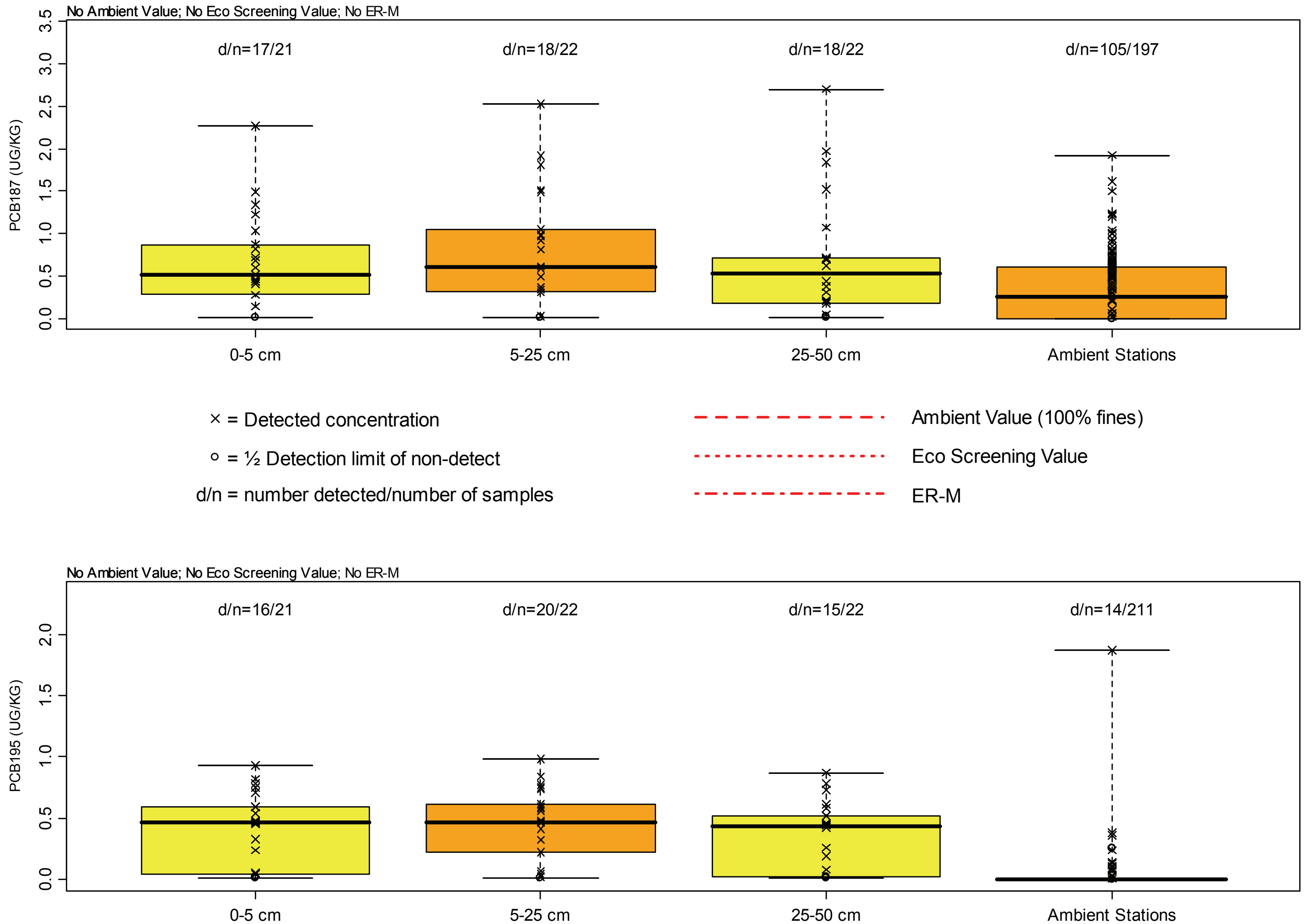


Figure A–81. Box Plots of PCB187 and PCB195 Concentrations in Western Bayside (2005) by Depth.

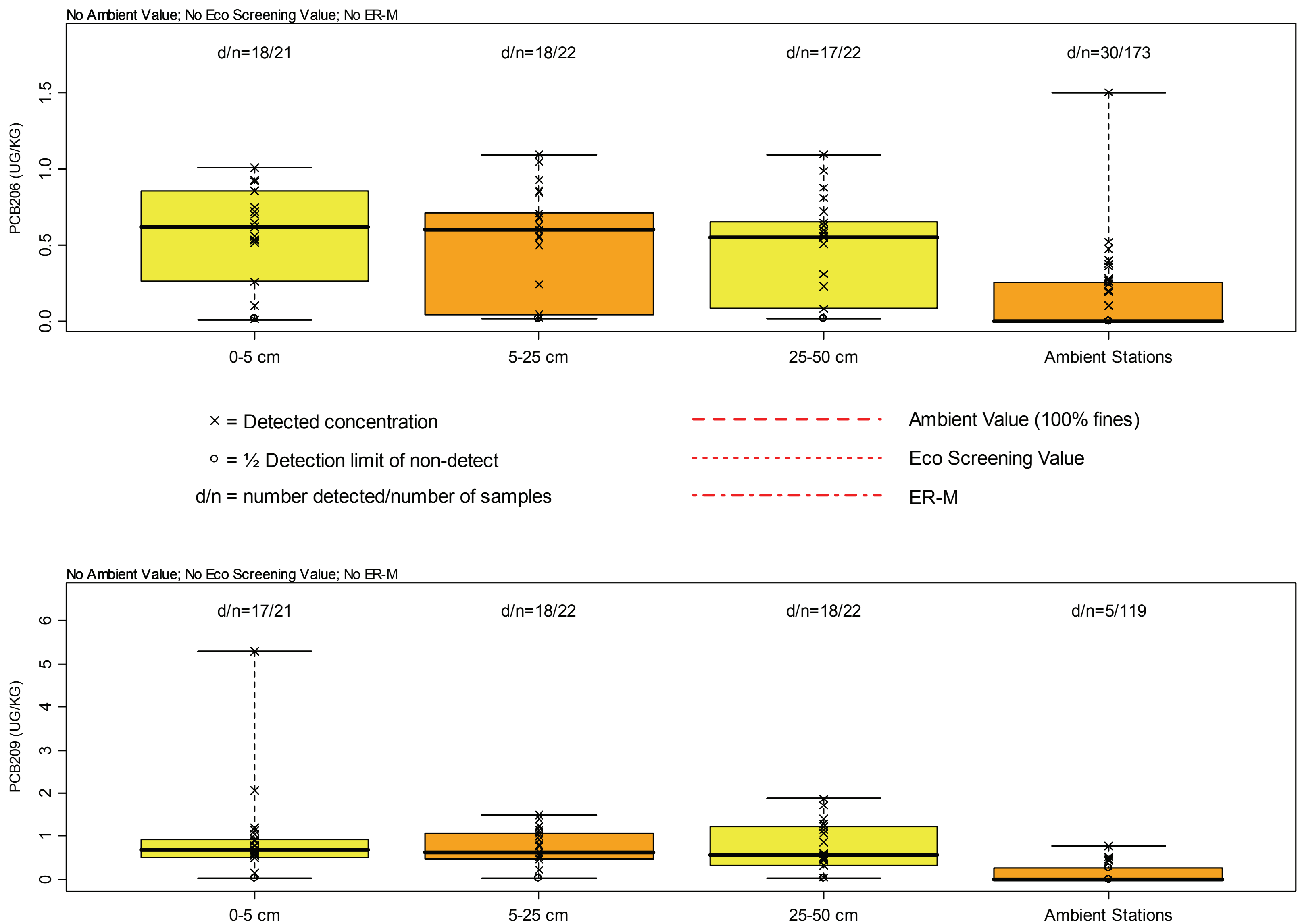


Figure A–82. Box Plots of PCB206 and PCB209 Concentrations in Western Bayside (2005) by Depth.

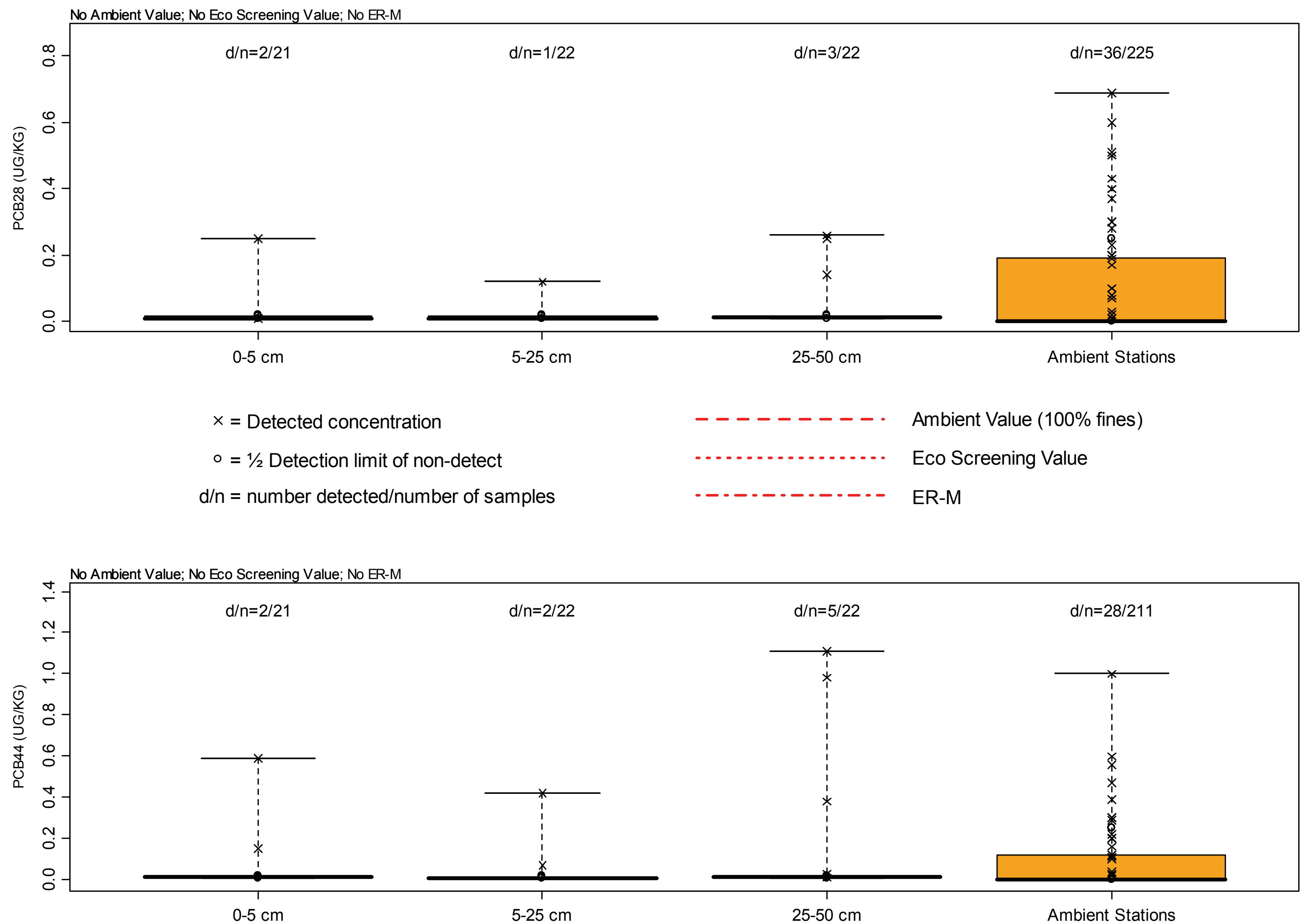


Figure A–83. Box Plots of PCB28 and PCB44 Concentrations in Western Bayside (2005) by Depth.

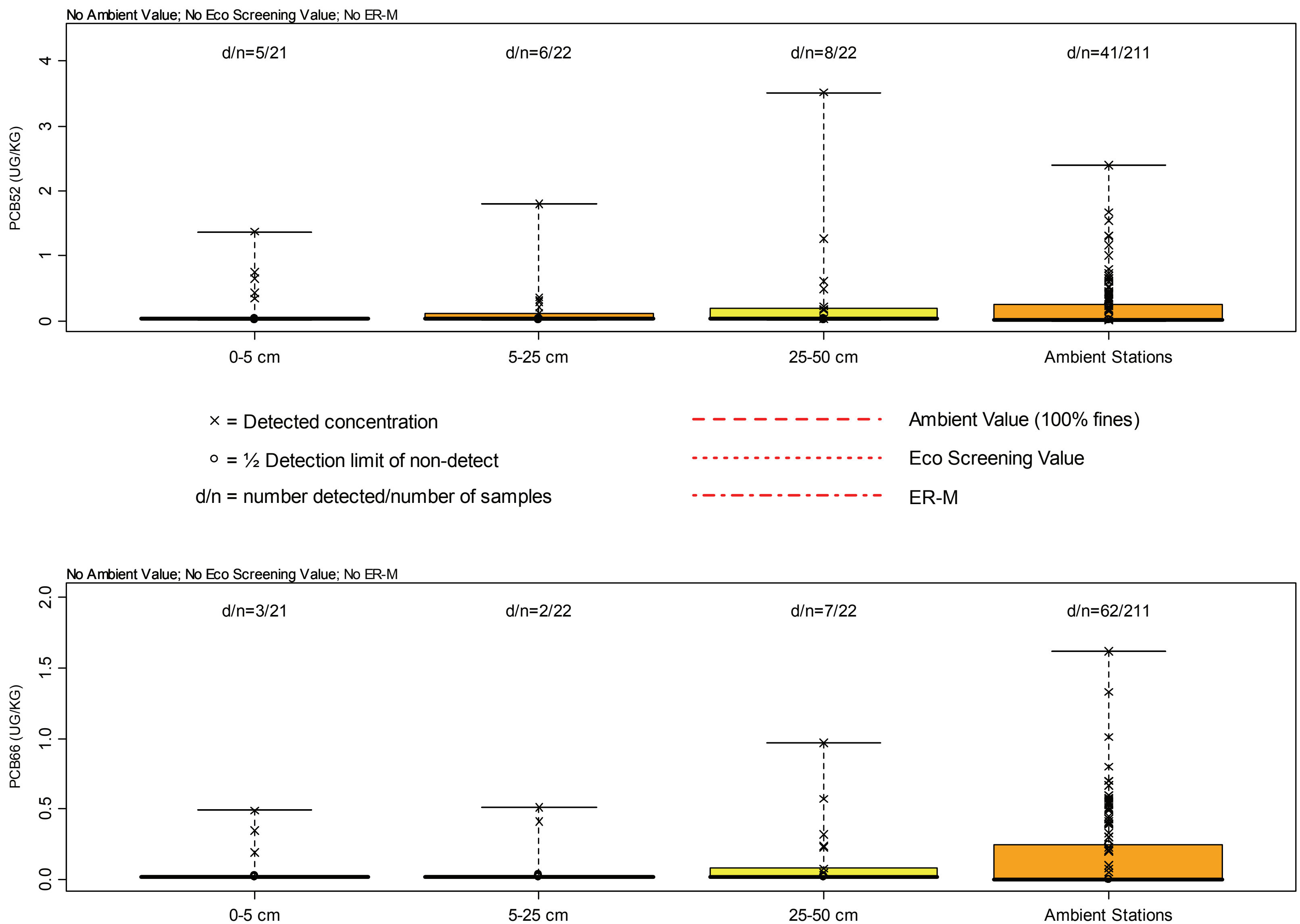
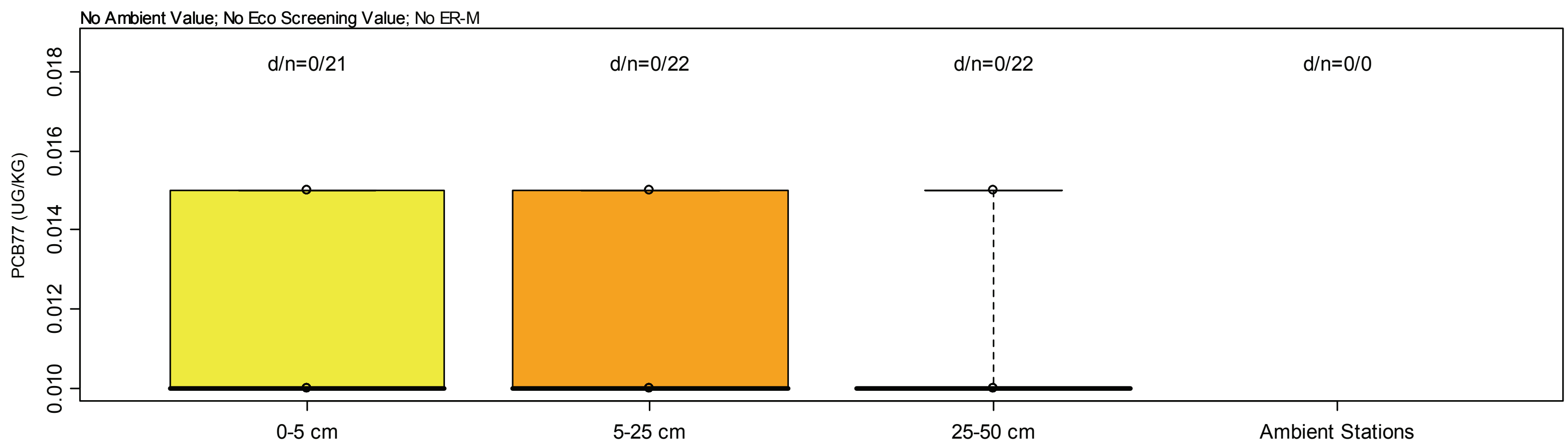


Figure A–84. Box Plots of PCB52 and PCB66 Concentrations in Western Bayside (2005) by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

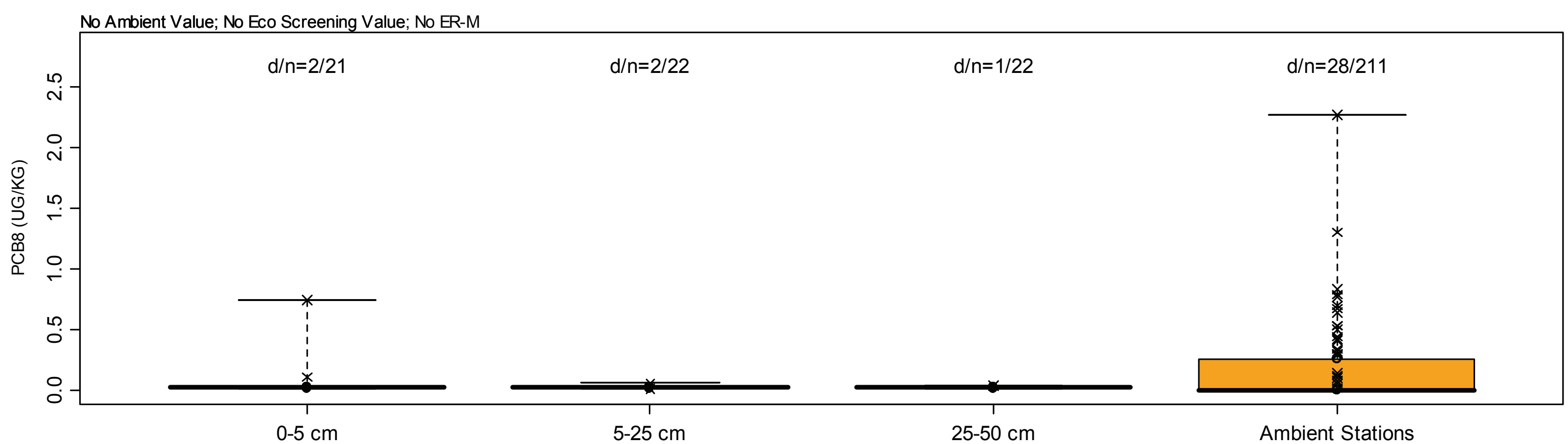


Figure A–85. Box Plots of PCB77 and PCB8 Concentrations in Western Bayside (2005) by Depth.

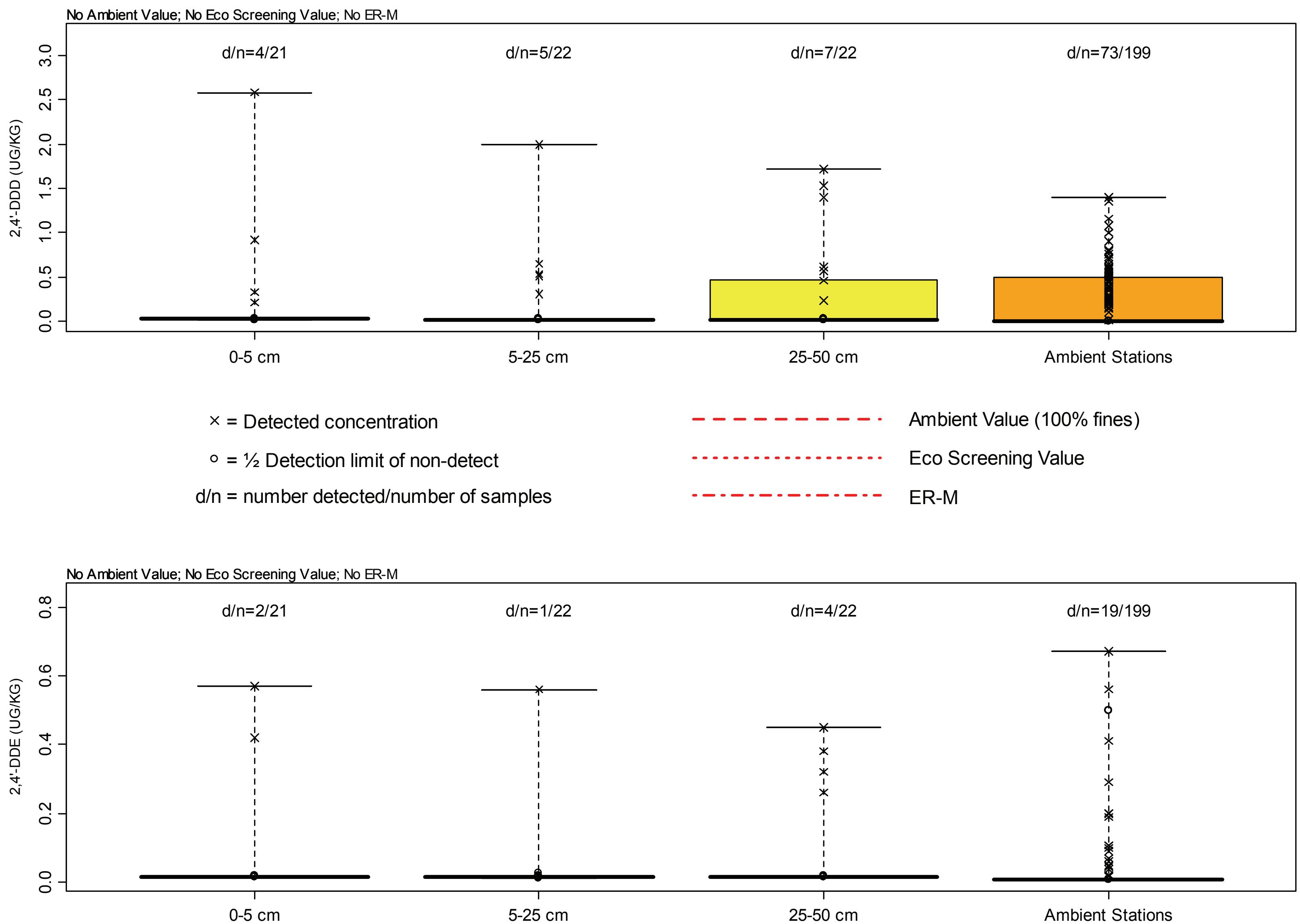


Figure A–86. Box Plots of 2,4'DDD and 2,4'DDE Concentrations in Western Bayside (2005) by Depth.

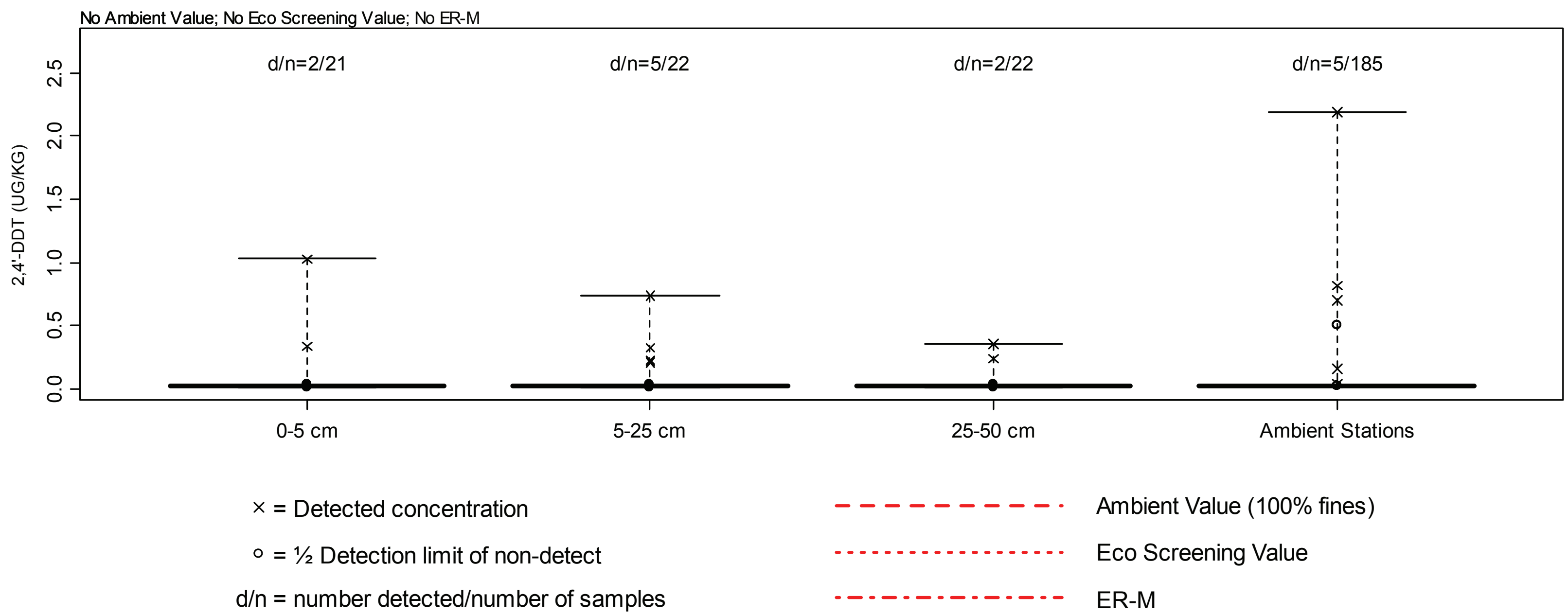


Figure A–87. Box Plots of 2,4'DDT Concentrations in Western Bayside (2005) by Depth.

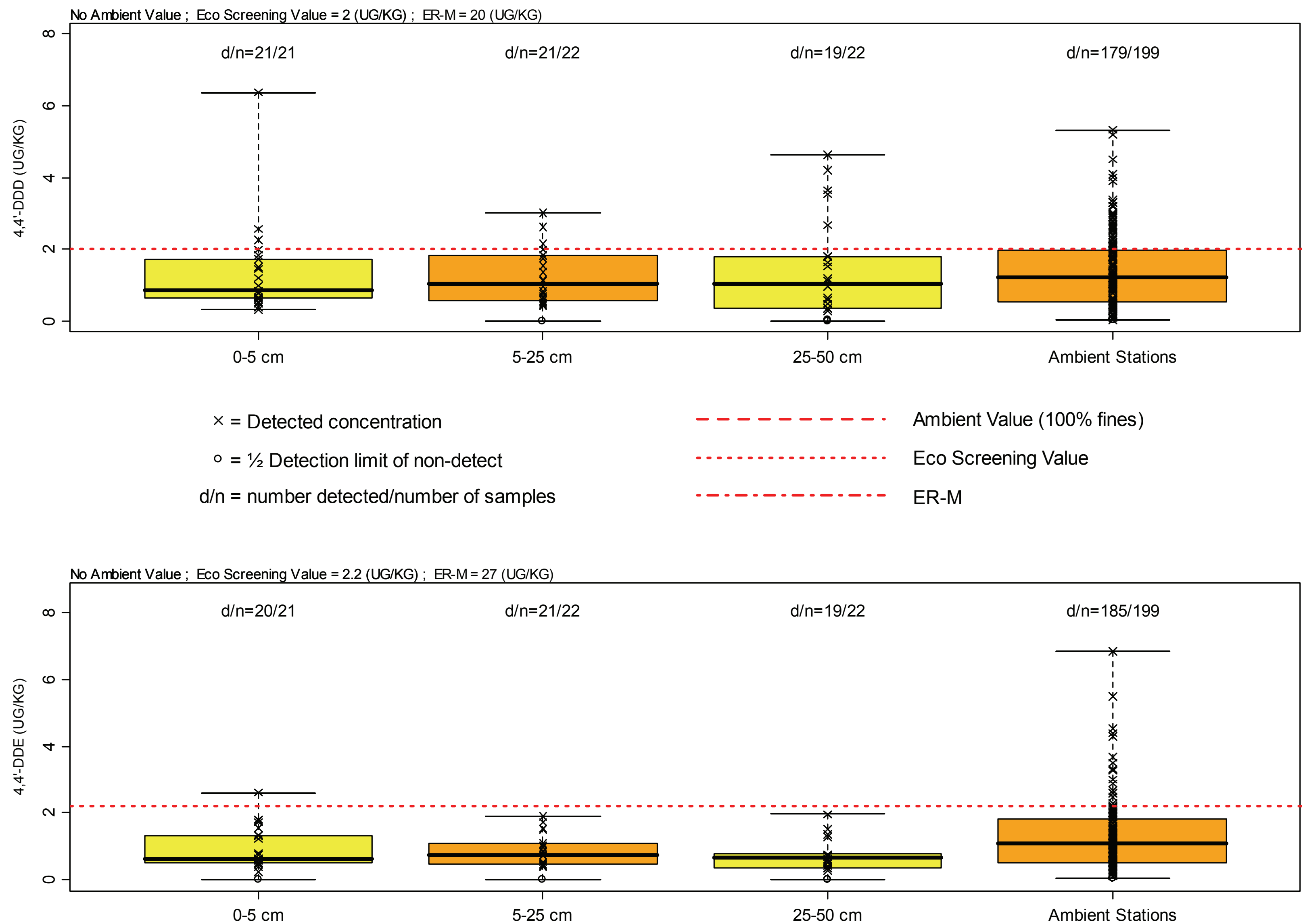


Figure A–88. Box Plots of 4,4'DDD and 4,4'DDE Concentrations in Western Bayside (2005) by Depth.

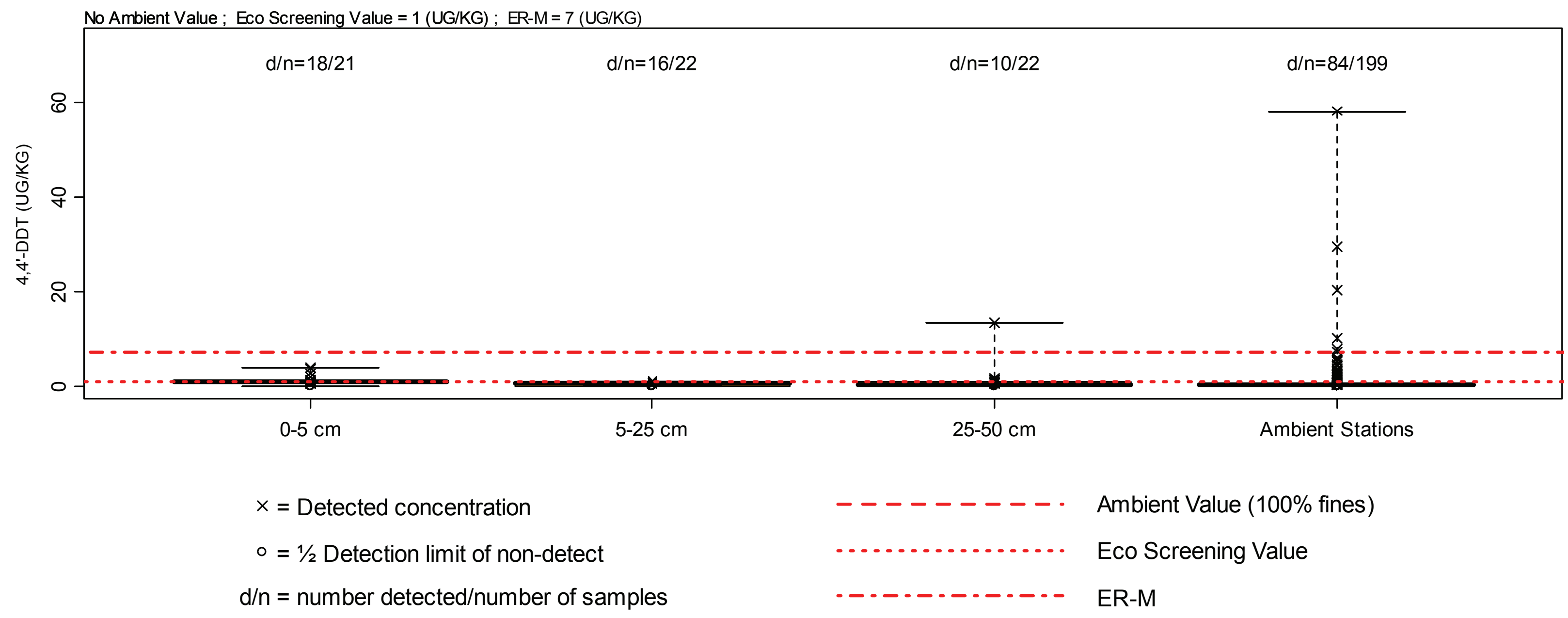


Figure A–89. Box Plots of 4,4'DDT Concentrations in Western Bayside (2005) by Depth.

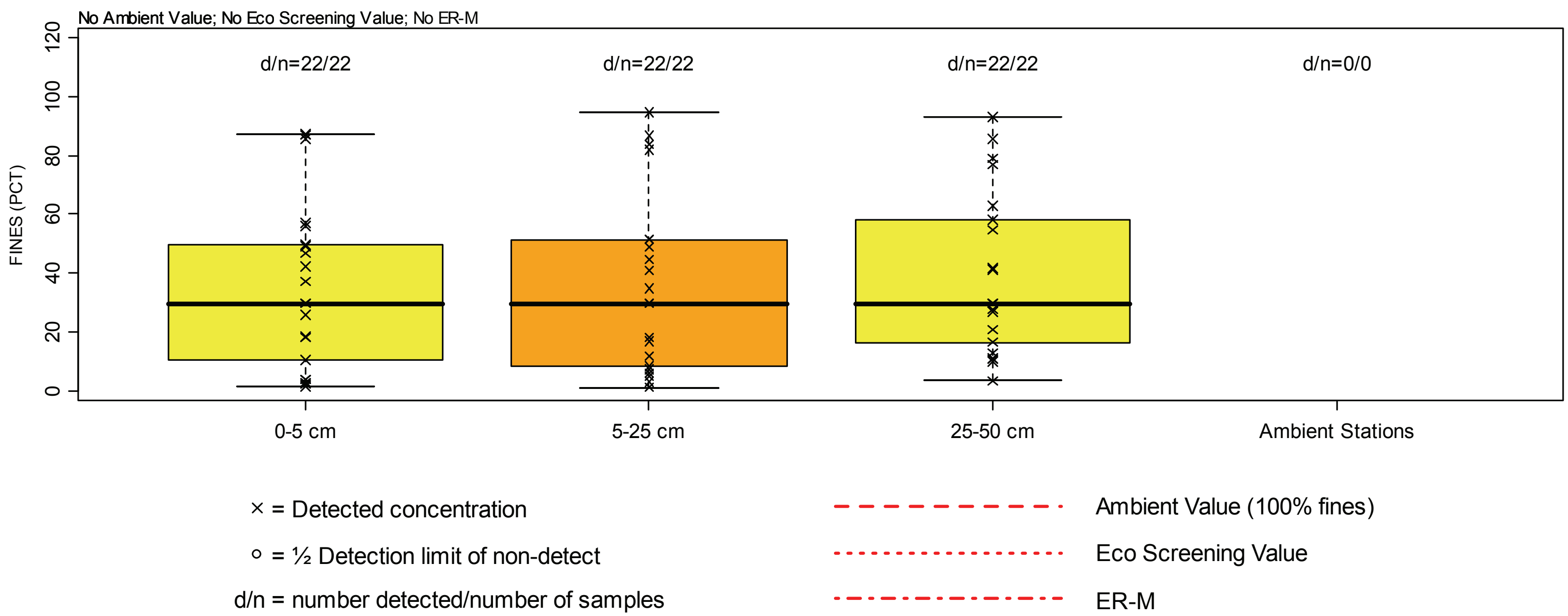


Figure A–90. Box Plots of Fine Grains Concentrations in Western Bayside (2005) by Depth.

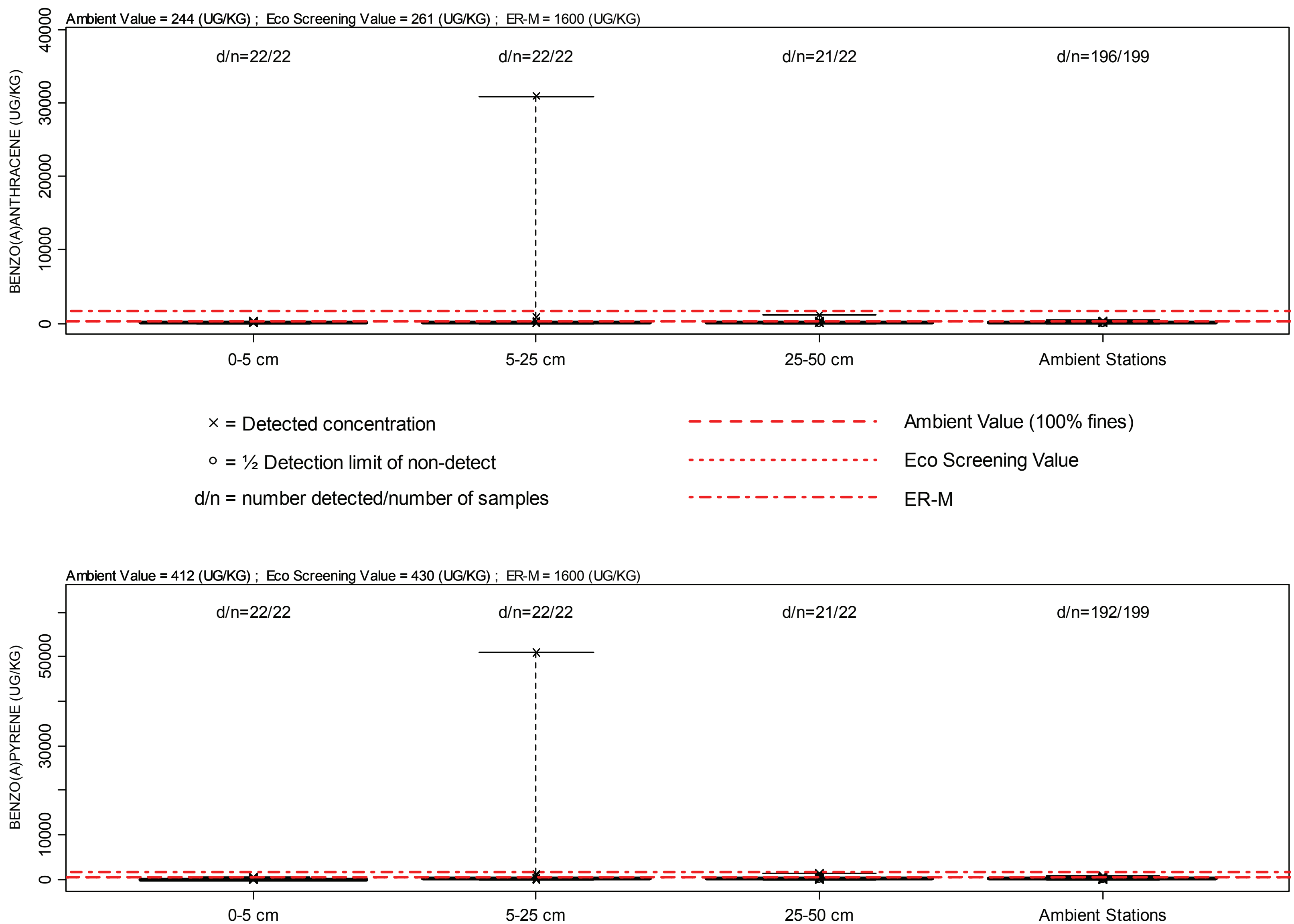
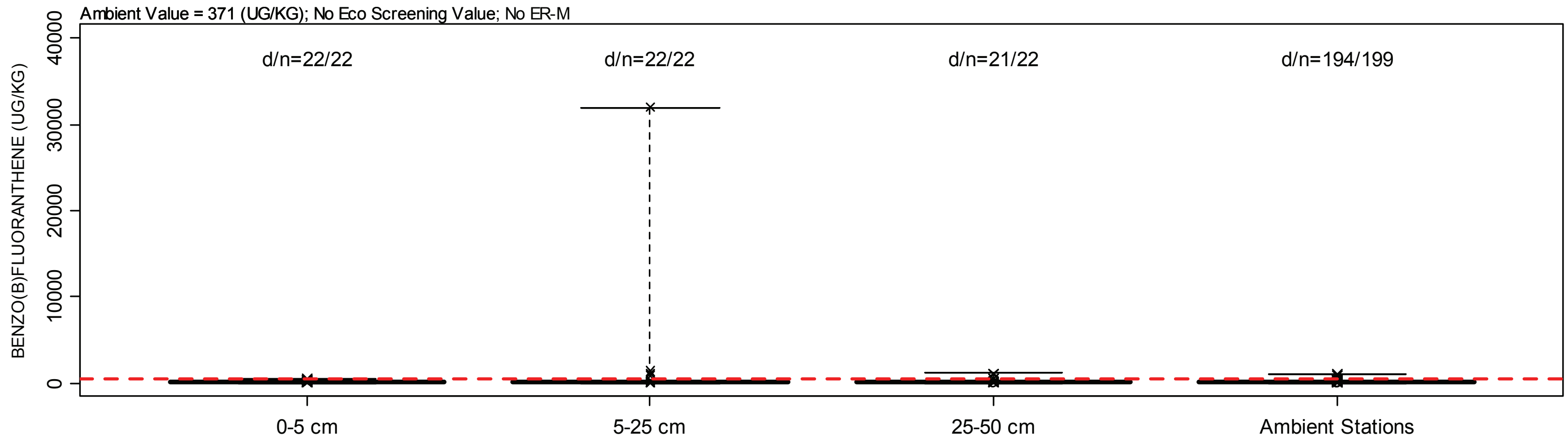


Figure A–91. Box Plots of Benzo(a)anthracene and Benzo(a)pyrene Concentrations in Western Bayside (2005) by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

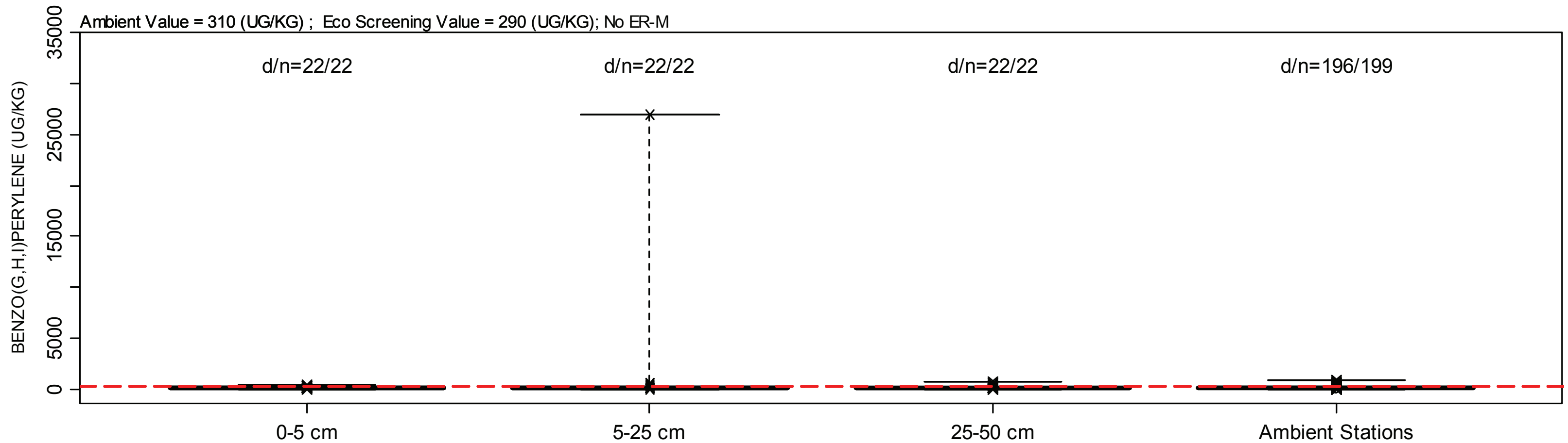


Figure A–92. Box Plots of Benzo(b)fluoranthene and Benzo(g,h,i)perylene Concentrations in Western Bayside (2005) by Depth.

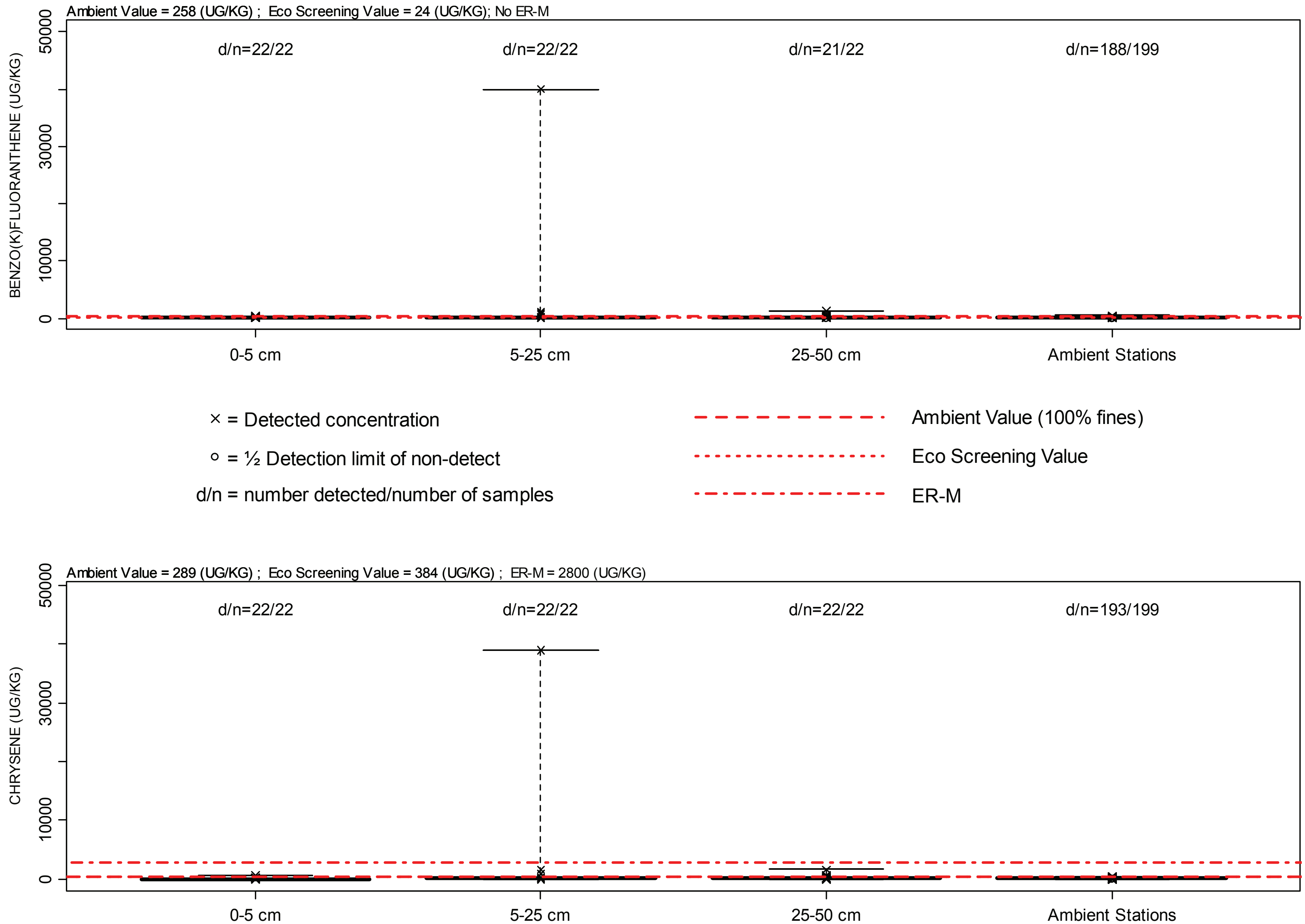


Figure A–93. Box Plots of Benzo(k)fluoranthene and Chrysene Concentrations in Western Bayside (2005) by Depth.

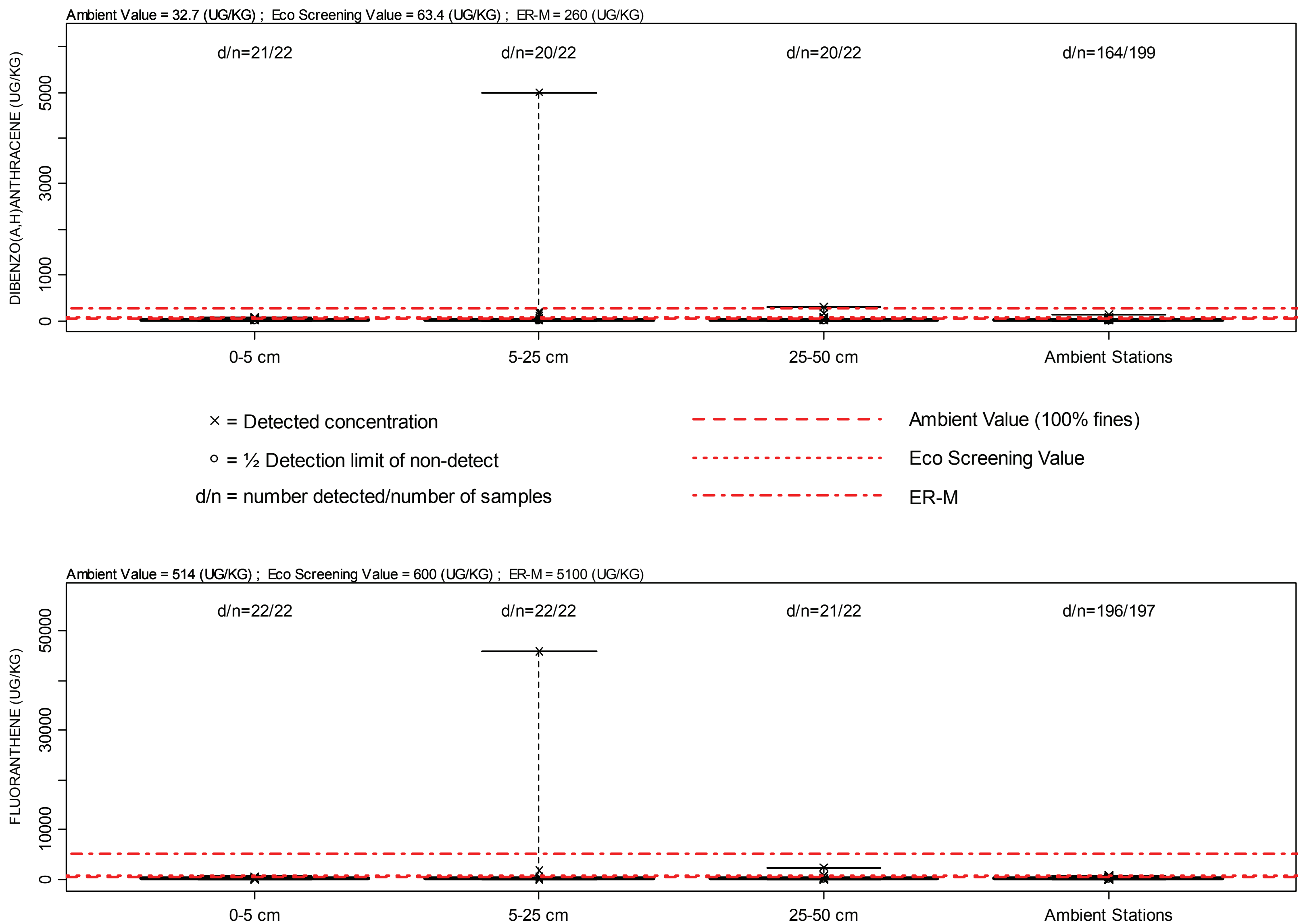


Figure A–94. Box Plots of Dibenzo(a,h)anthracene and Fluoranthene Concentrations in Western Bayside (2005) by Depth.

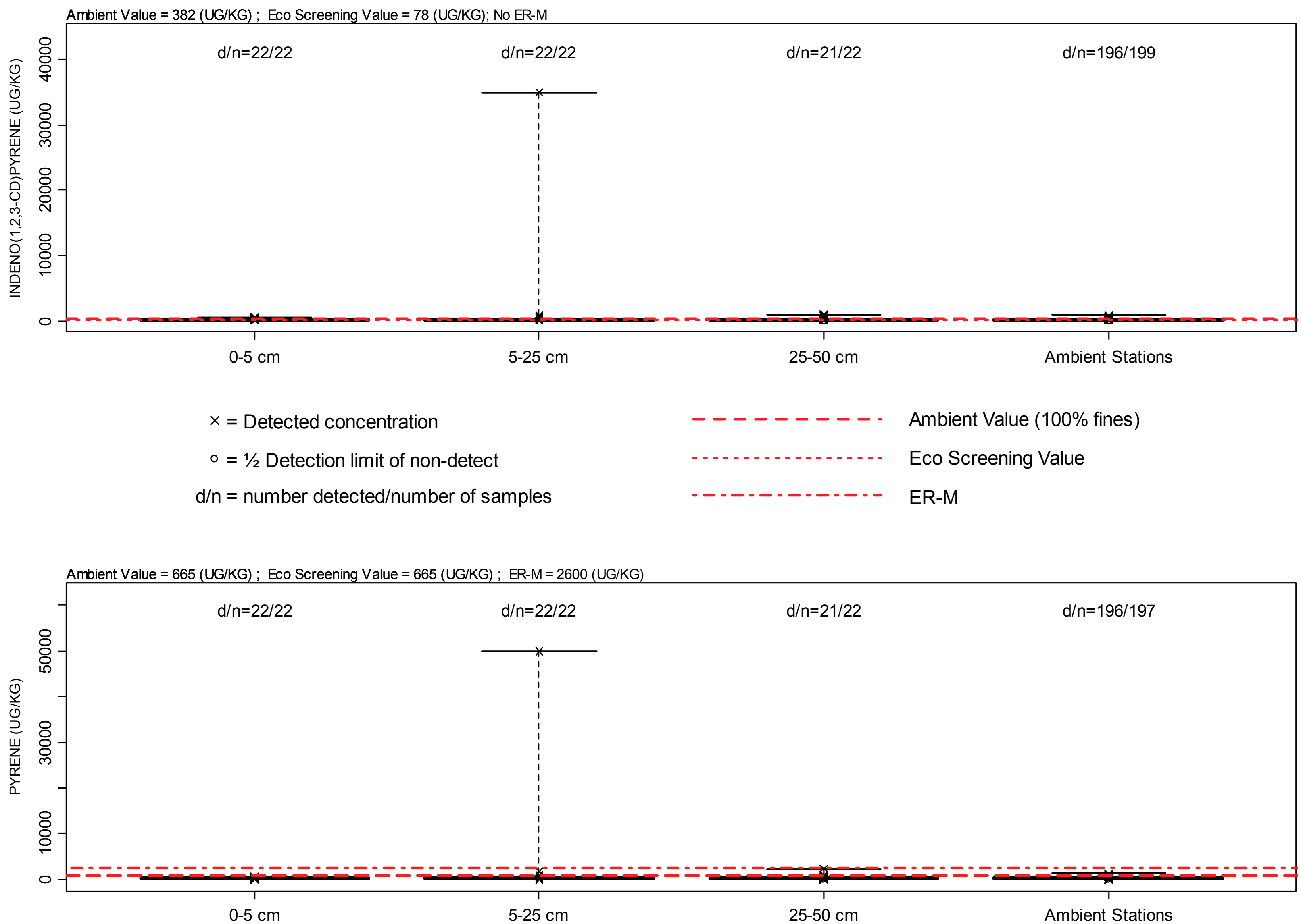


Figure A–95. Box Plots of Indeno(1,2,3-cd)pyrene and Pyrene Concentrations in Western Bayside (2005) by Depth.

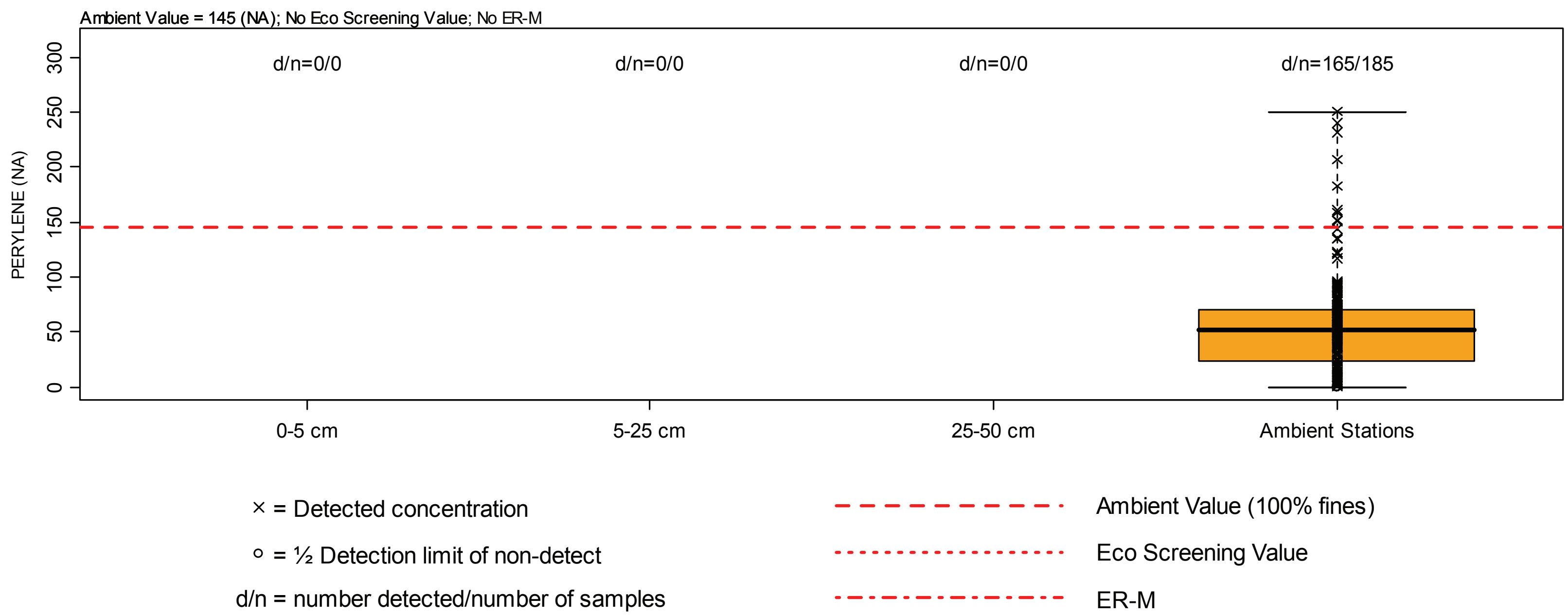


Figure A–96. Box Plots of Perylene Concentrations in Western Bayside (2005) by Depth.

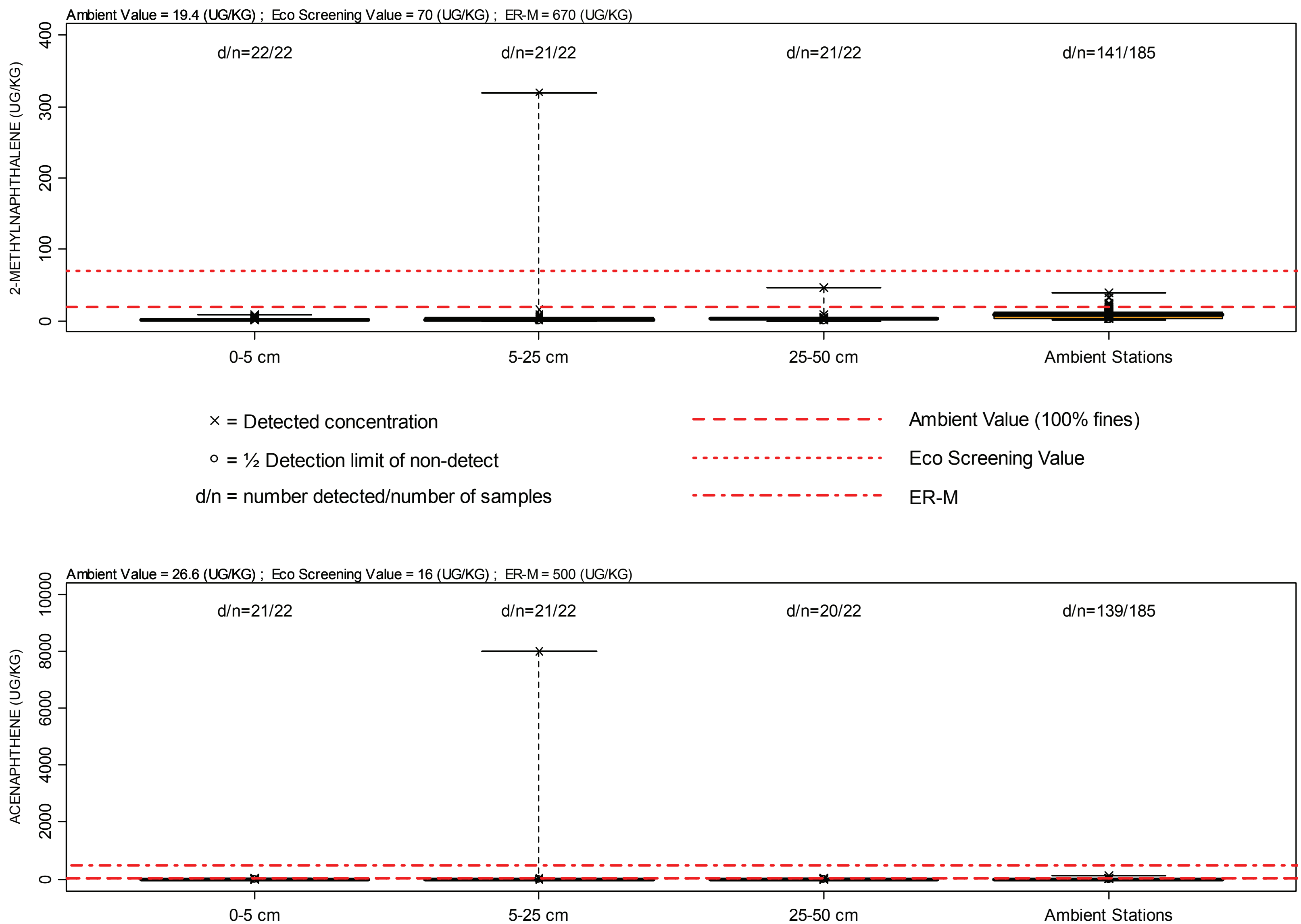


Figure A–97. Box Plots of 2-Methylnaphthalene and Acenaphthene Concentrations in Western Bayside (2005) by Depth.

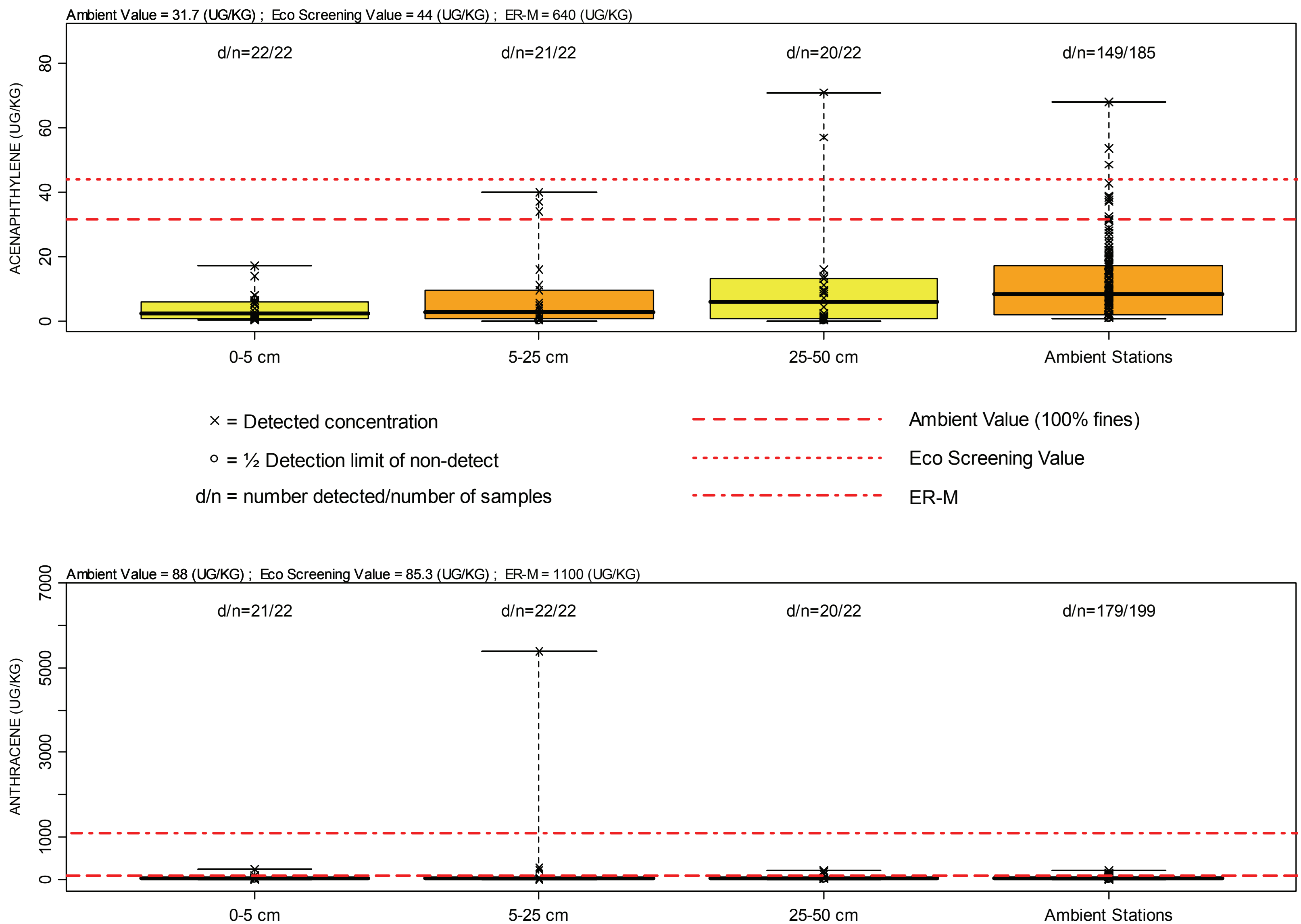


Figure A–98. Box Plots of Acenaphthylene and Anthracene Concentrations in Western Bayside (2005) by Depth.

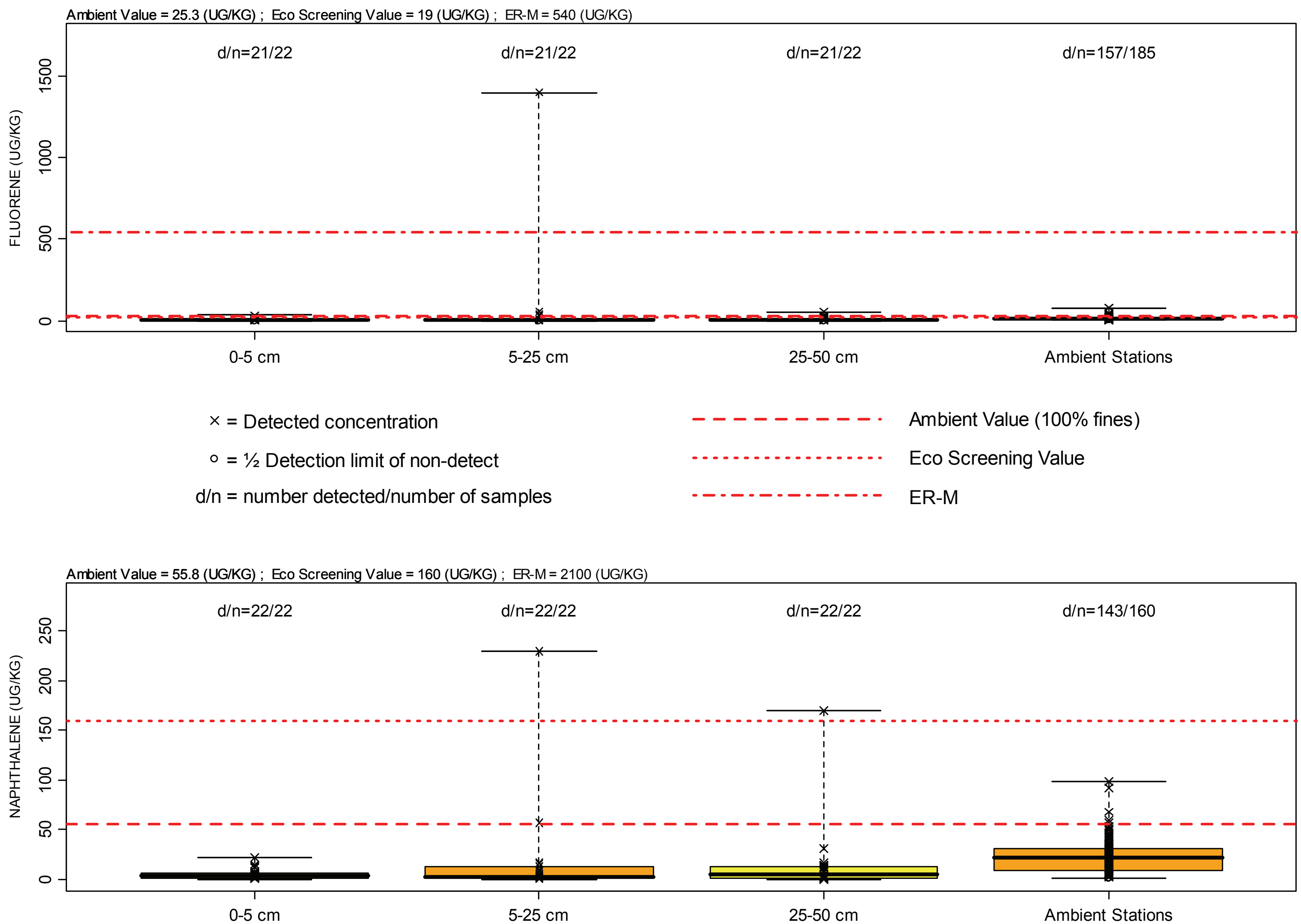


Figure A–99. Box Plots of Fluorene and Naphthalene Concentrations in Western Bayside (2005) by Depth.

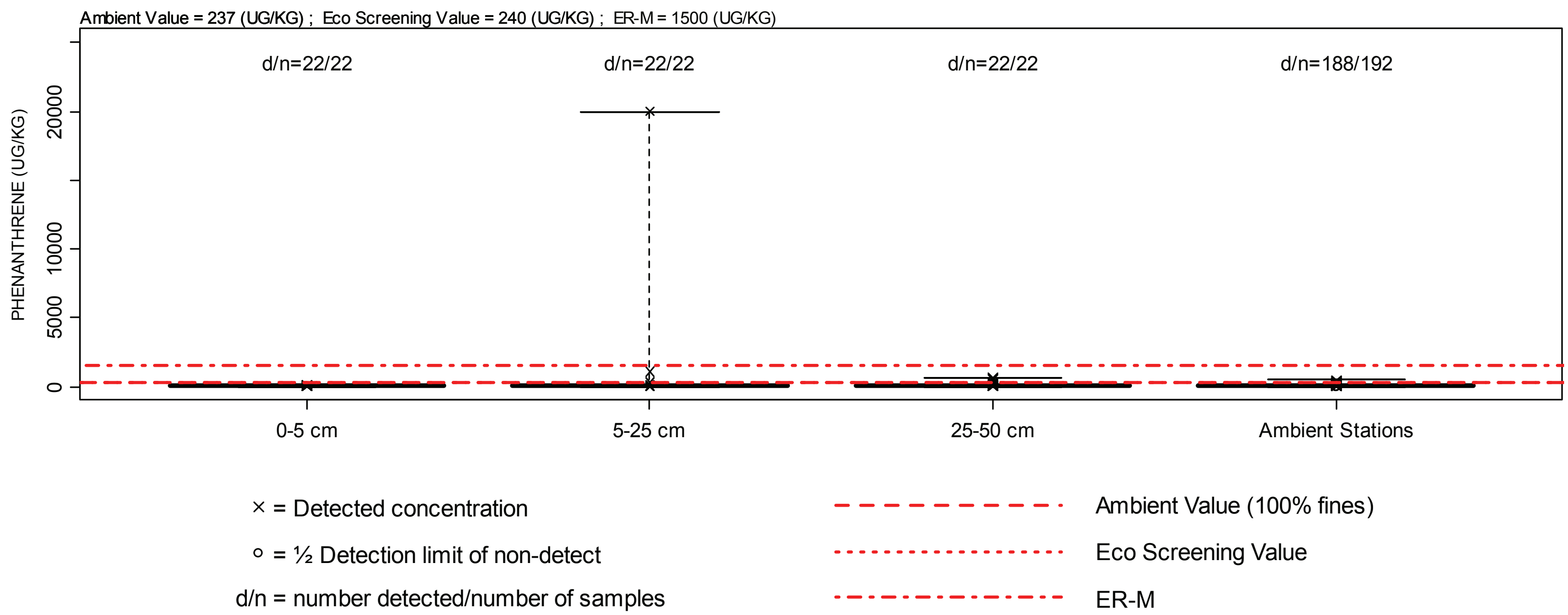


Figure A–100. Box Plots of Phenanthrene Concentrations in Western Bayside (2005) by Depth.

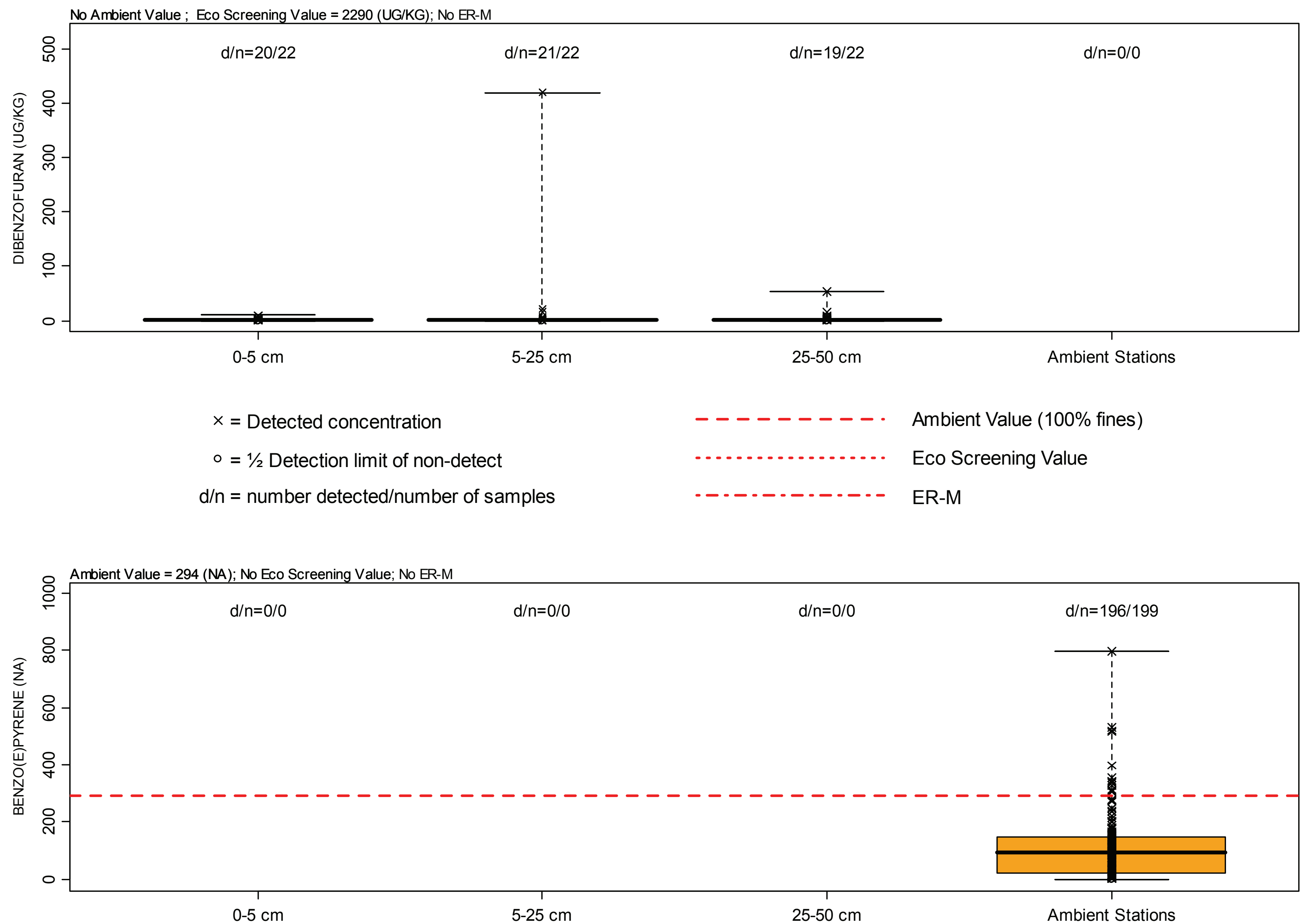


Figure A–101. Box Plots of Dibenzofuran and Benzo(e)pyrene Concentrations in Western Bayside (2005) by Depth.

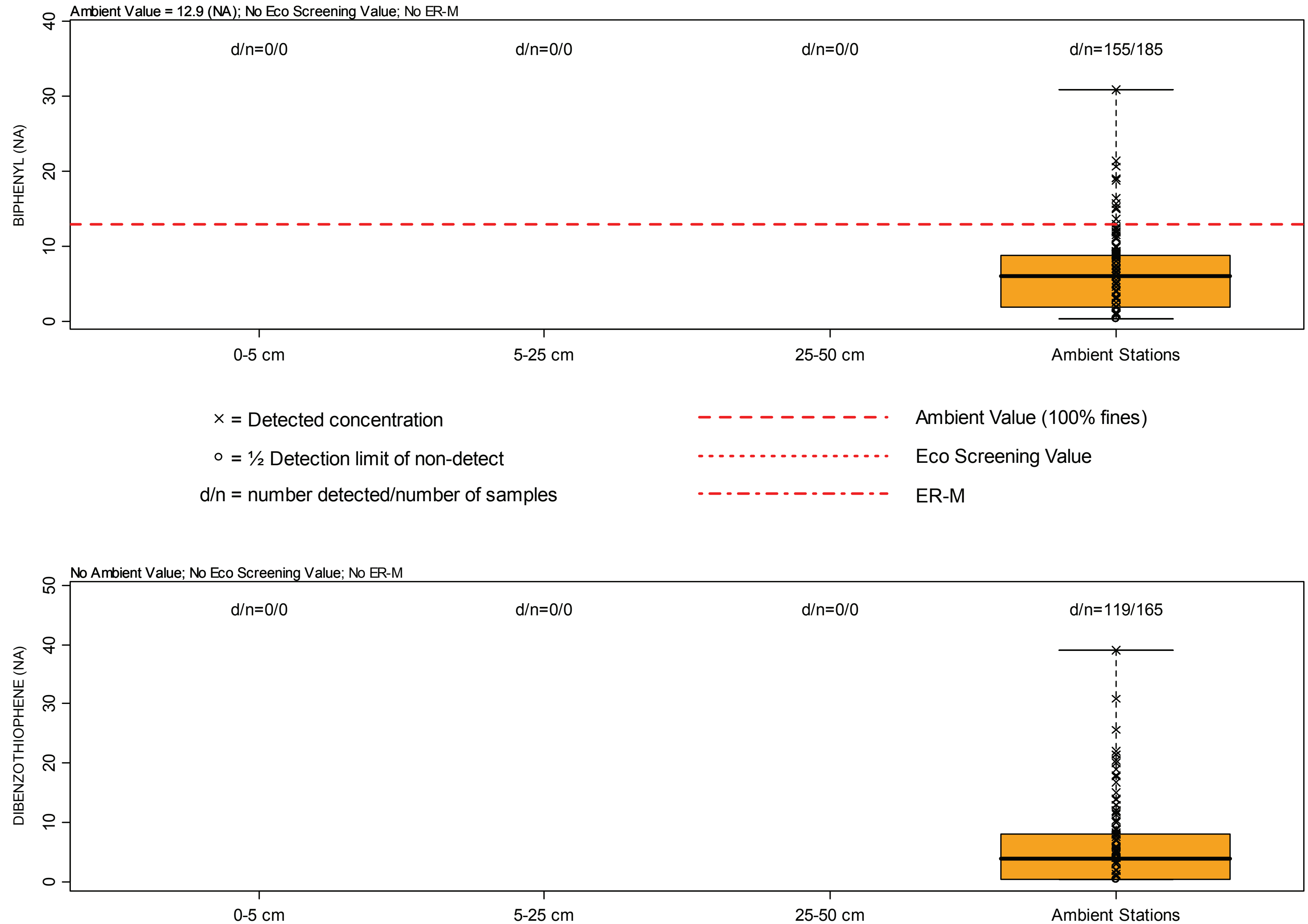


Figure A–102. Box Plots of Biphenyl and Dibenzothiophene Concentrations in Western Bayside (2005) by Depth.

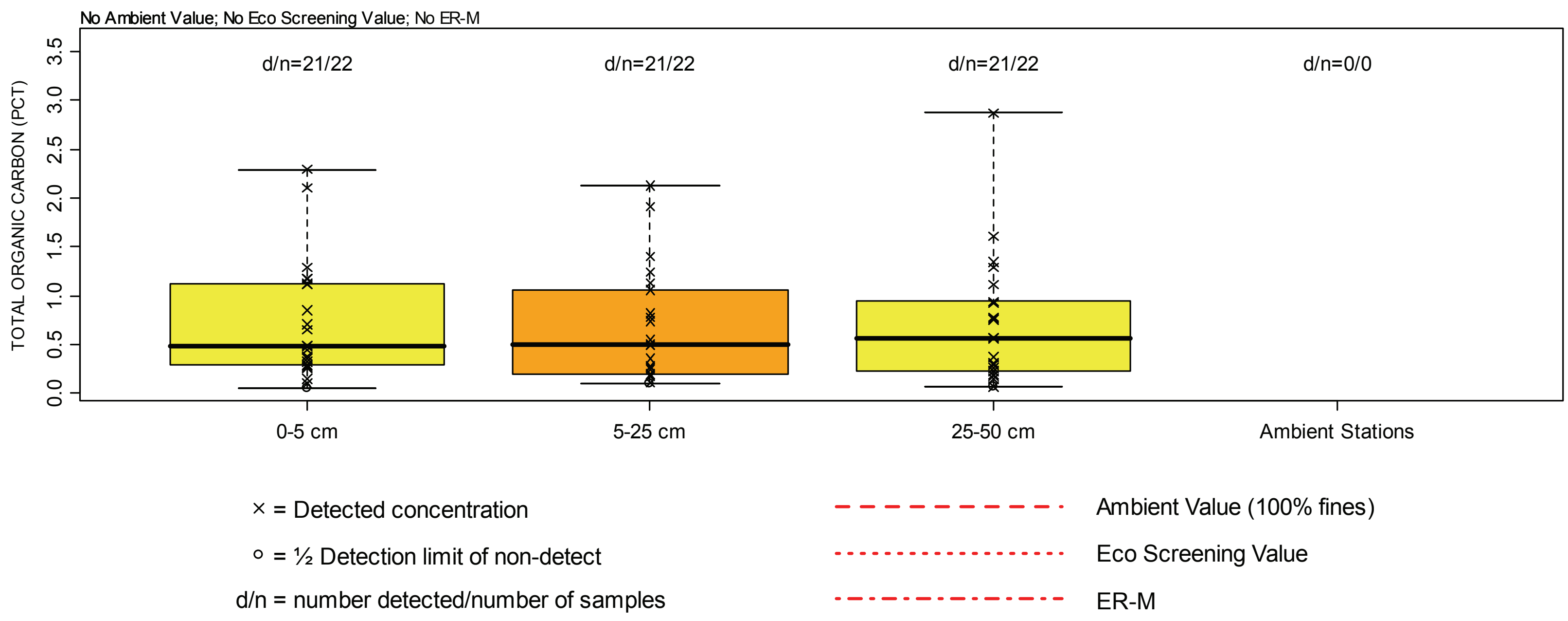


Figure A–103. Box Plots of Total Organic Carbon Concentrations in Western Bayside (2005) by Depth.

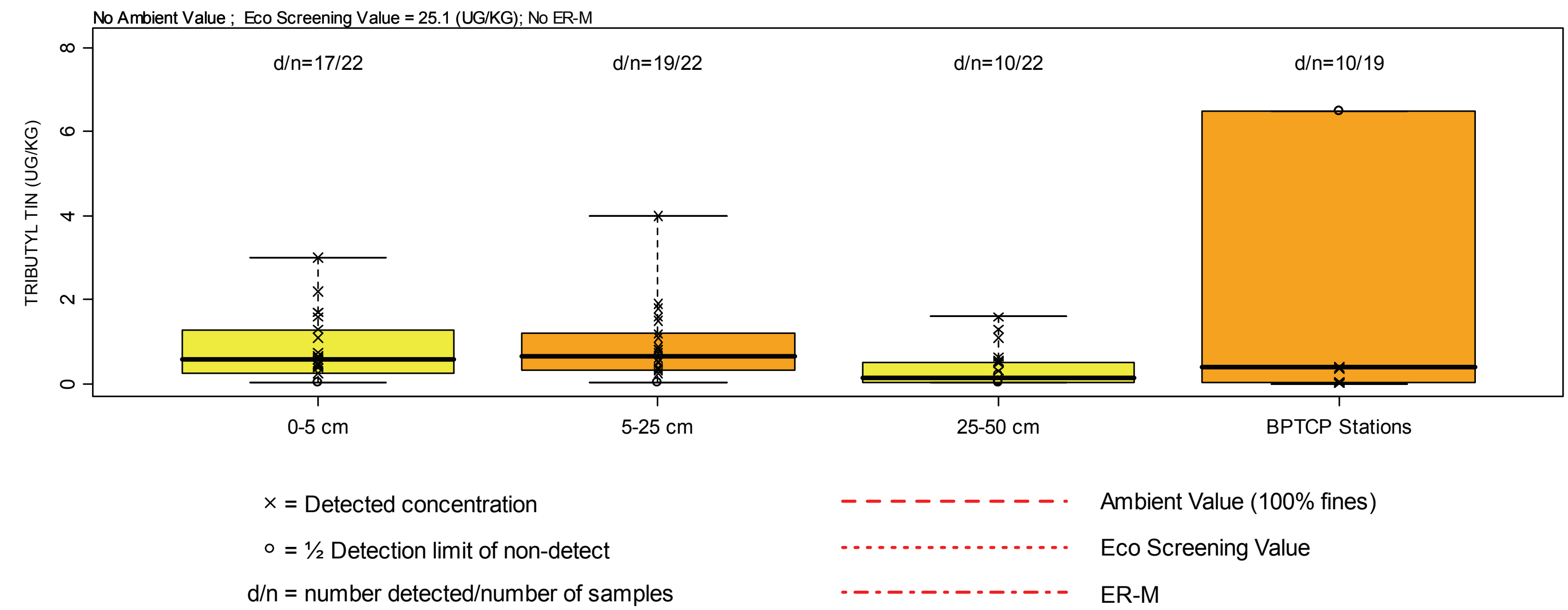


Figure A–104. Box Plots of Tributyl Tin Concentrations in Western Bayside (2005) by Depth.

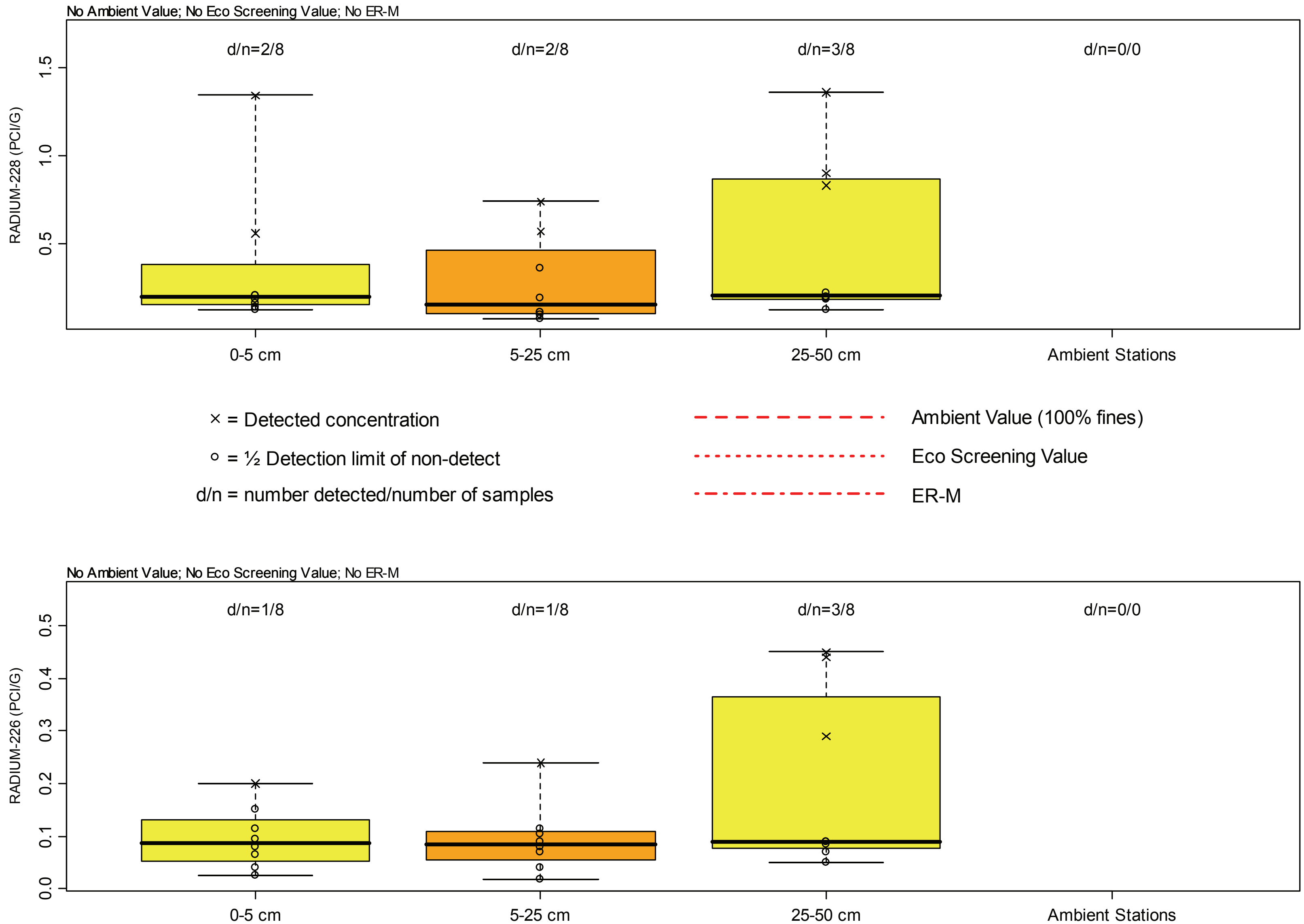


Figure A–105. Box Plots of Radium-228 and Radium-226 Concentrations in Western Bayside (2005) by Depth.

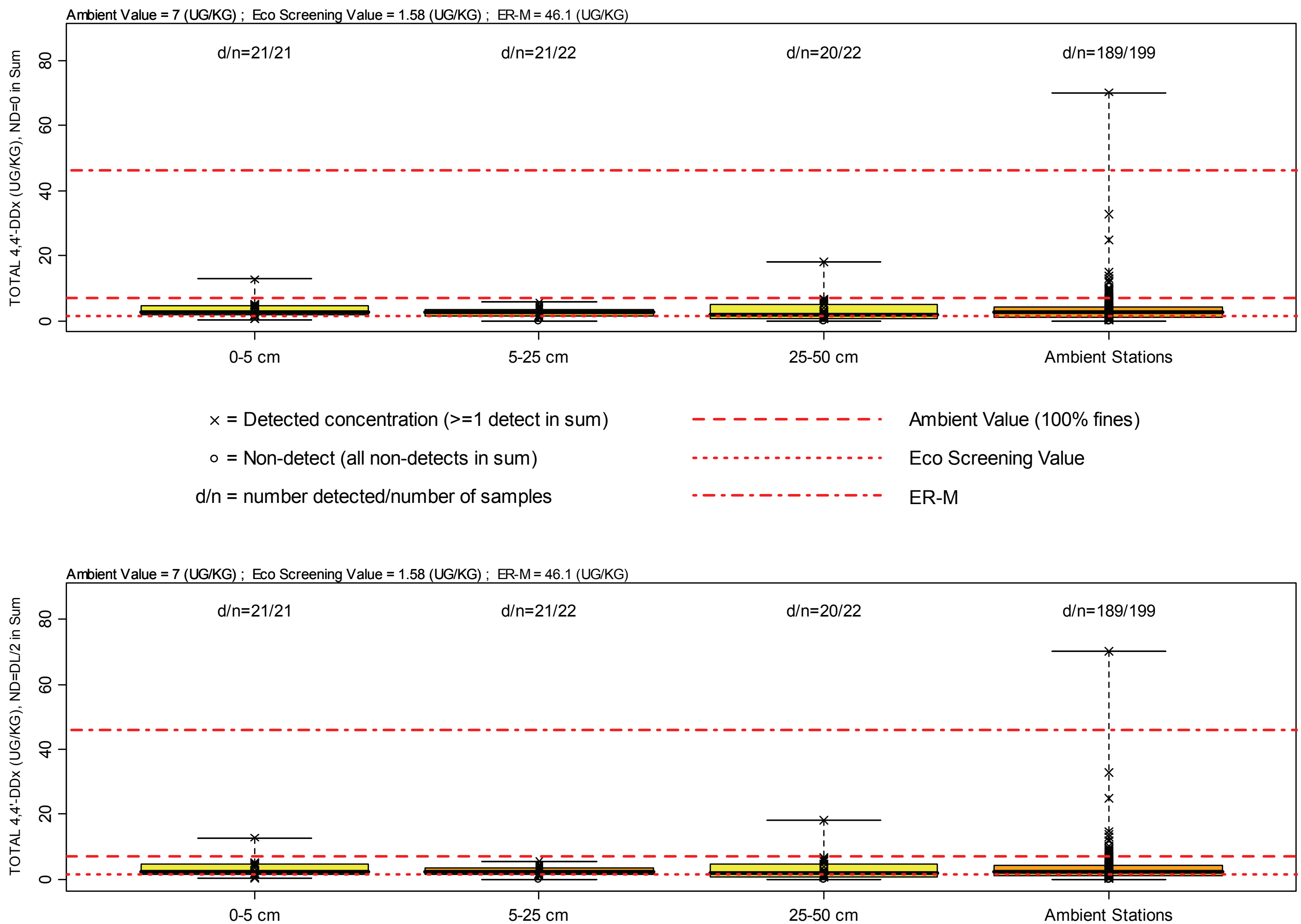


Figure A–106. Box Plots of Total 4,4'-DDx Concentrations in Western Bayside (2005) by Depth.

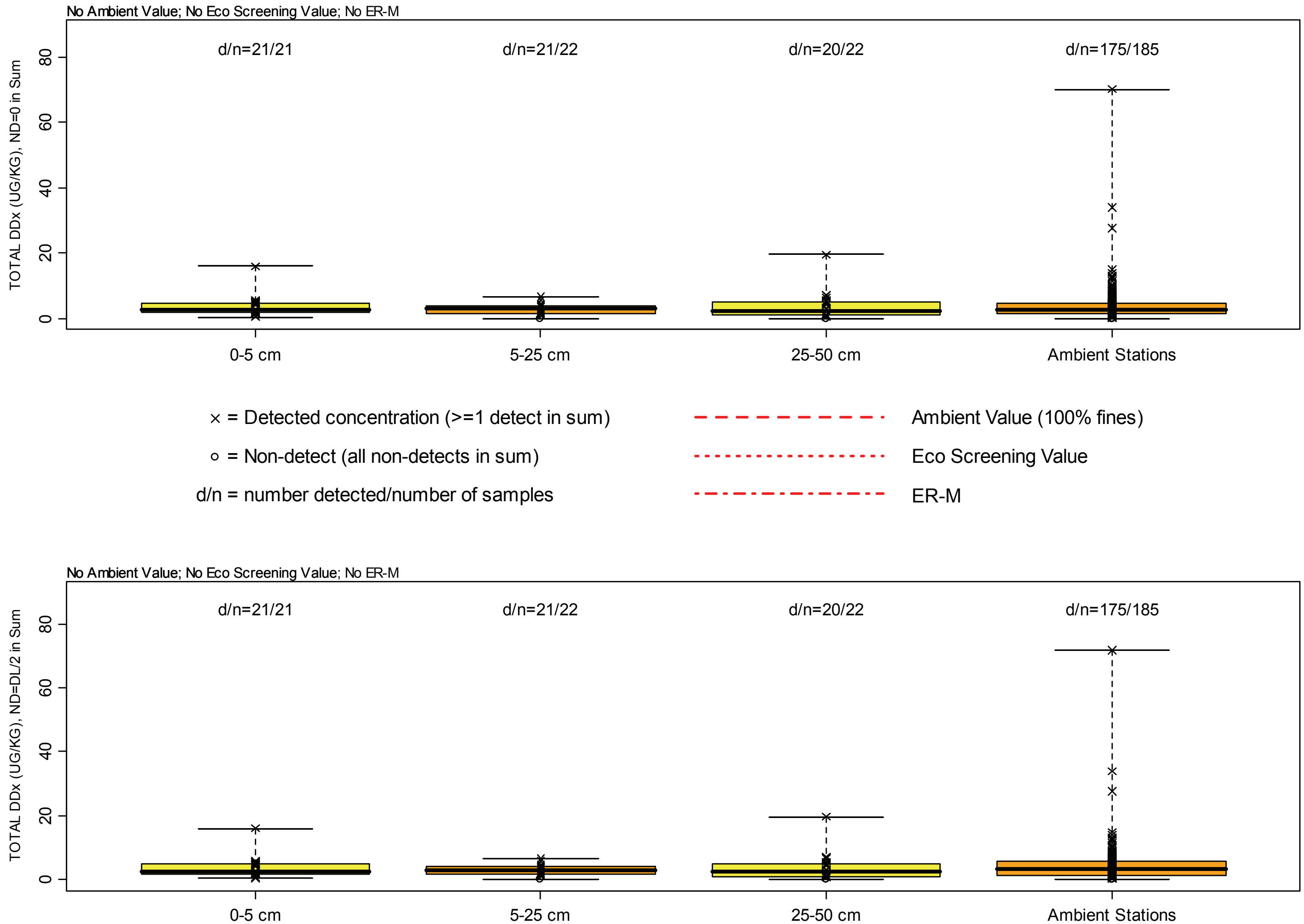


Figure A–107. Box Plots of Total DDx Concentrations in Western Bayside (2005) by Depth.

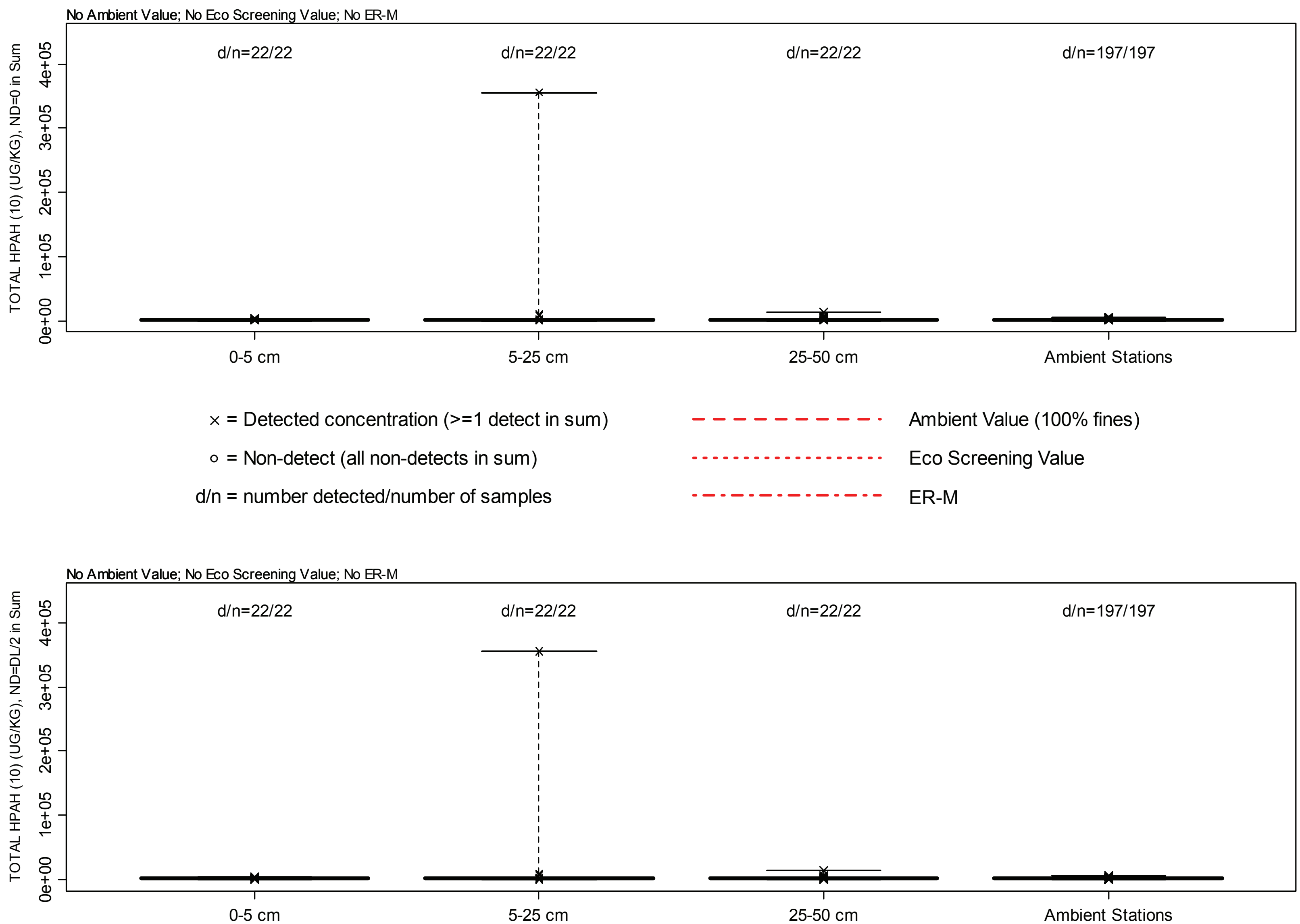


Figure A–108. Box Plots of Total HPAH(10) Concentrations in Western Bayside (2005) by Depth.

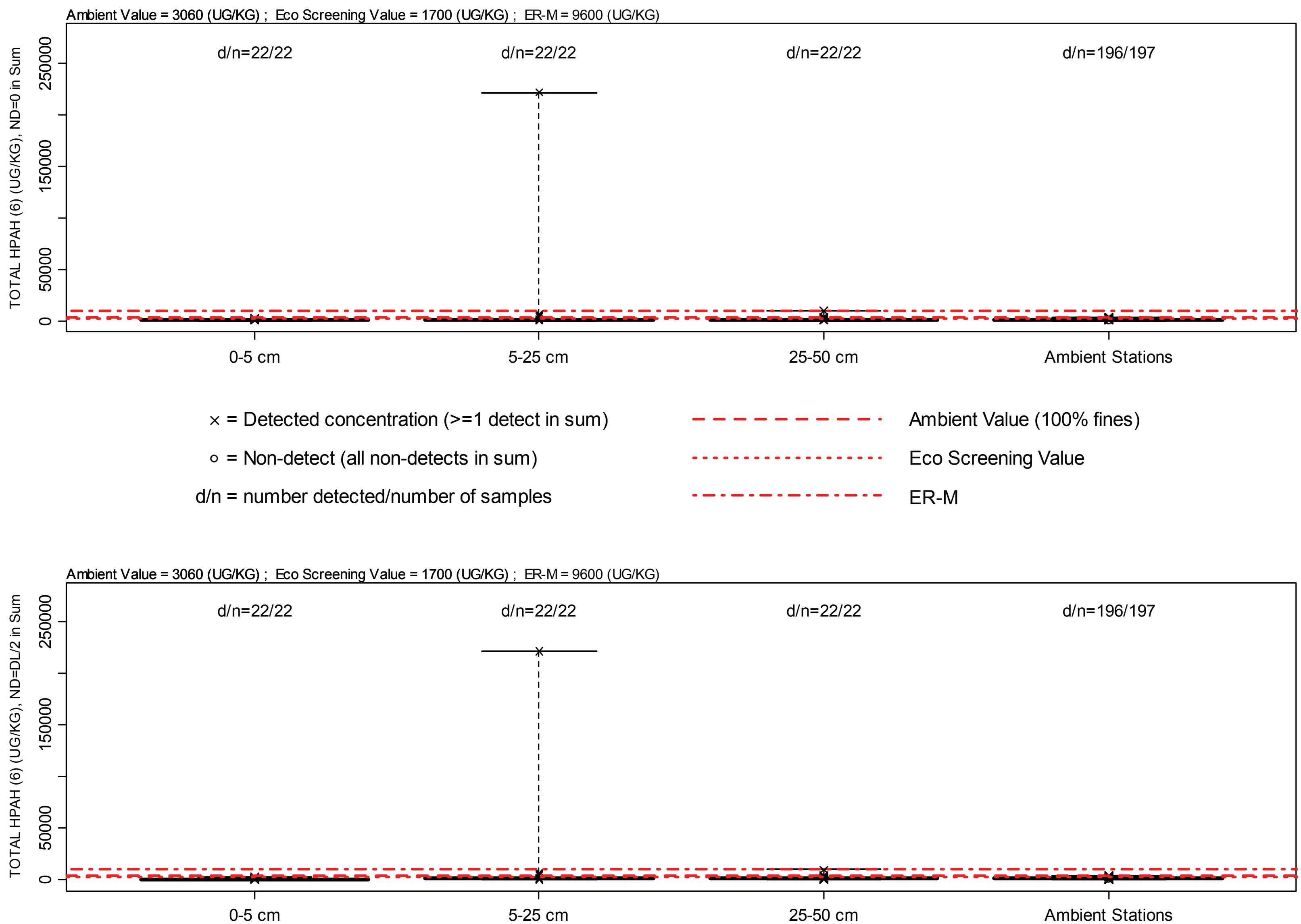


Figure A–109. Box Plots of Total HPAH(6) Concentrations in Western Bayside (2005) by Depth.

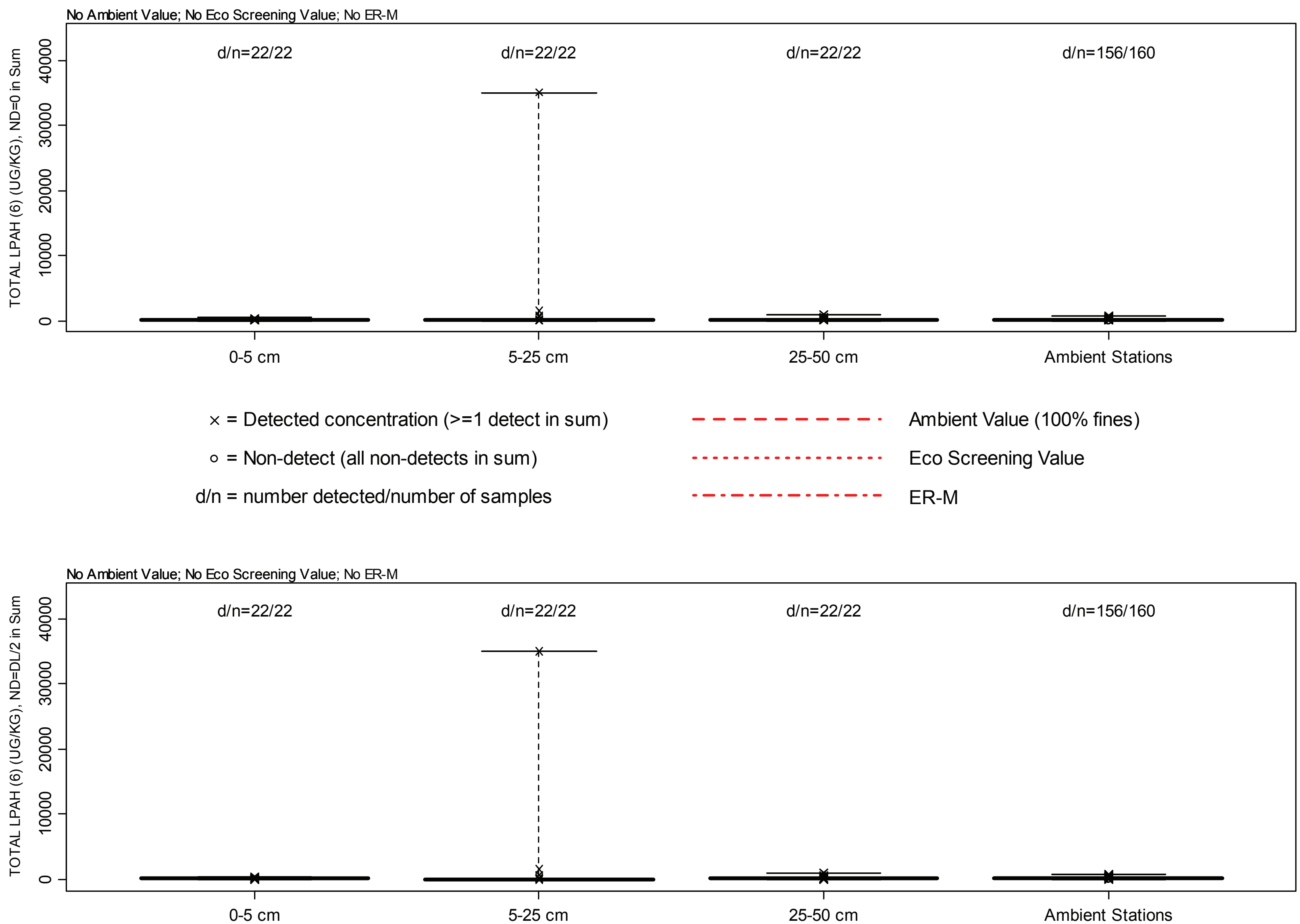


Figure A–110. Box Plots of Total LPAH(6) Concentrations in Western Bayside (2005) by Depth.

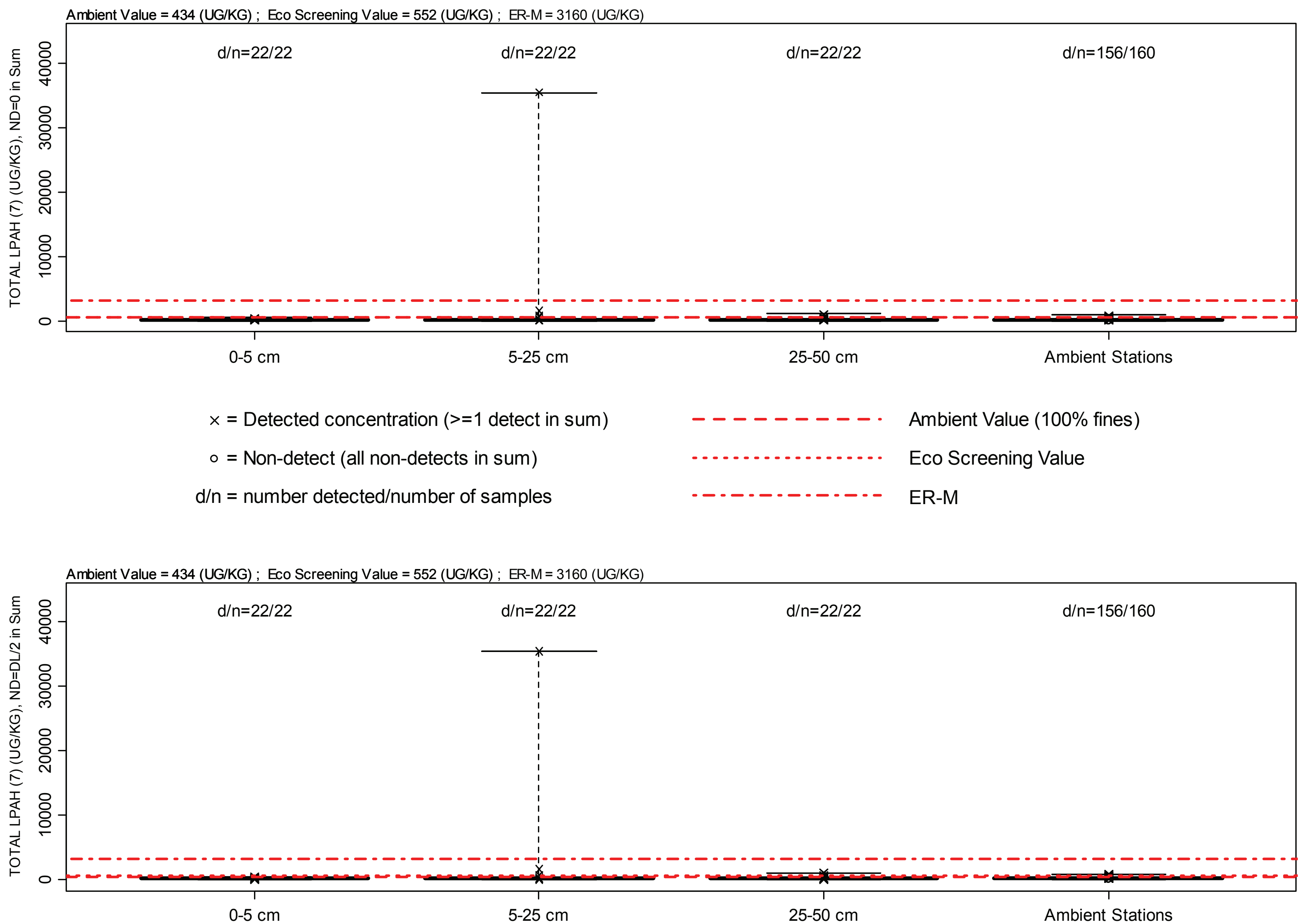


Figure A–111. Box Plots of Total LPAH(7) Concentrations in Western Bayside (2005) by Depth.

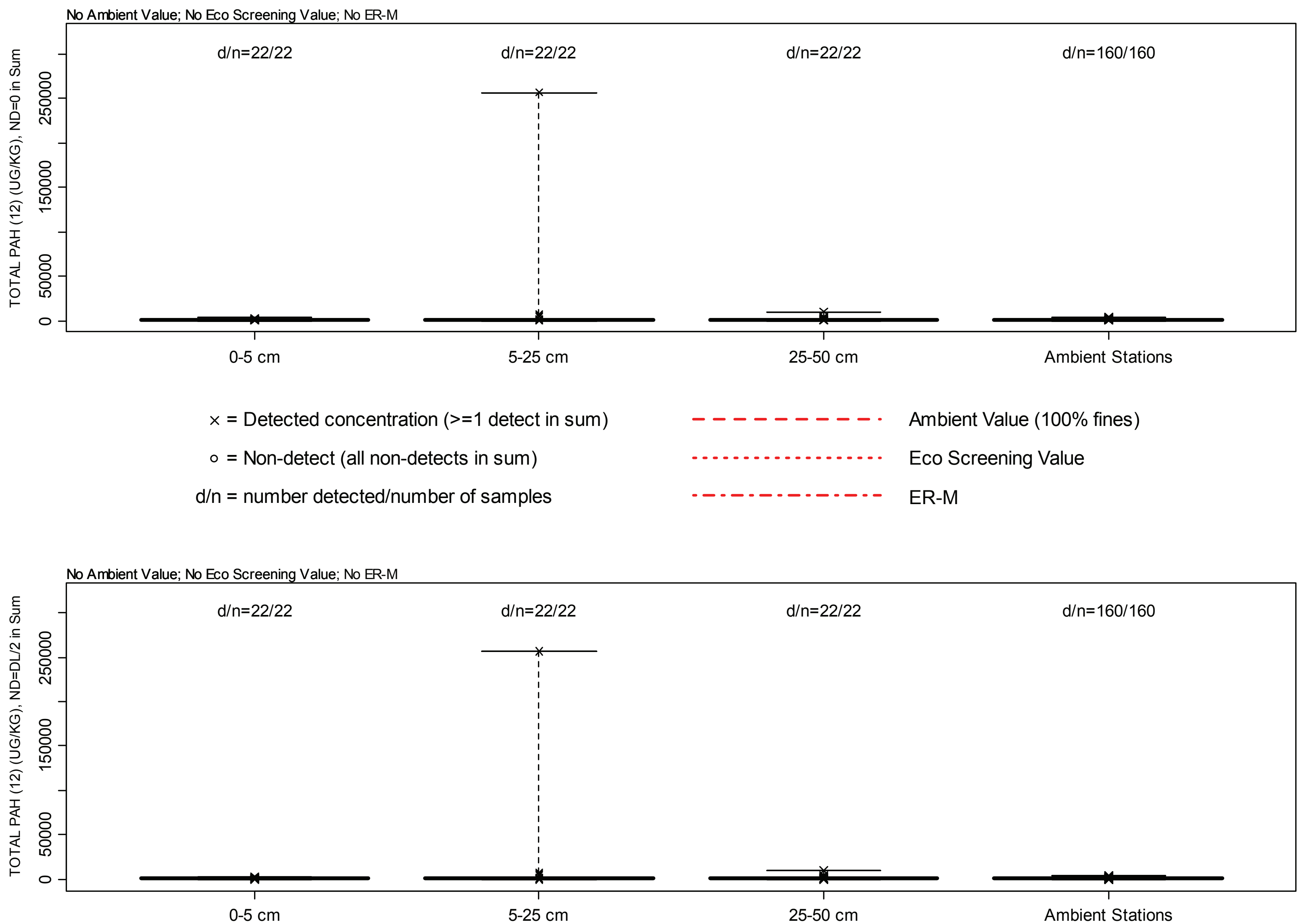


Figure A–112. Box Plots of Total PAH(12) Concentrations in Western Bayside (2005) by Depth.

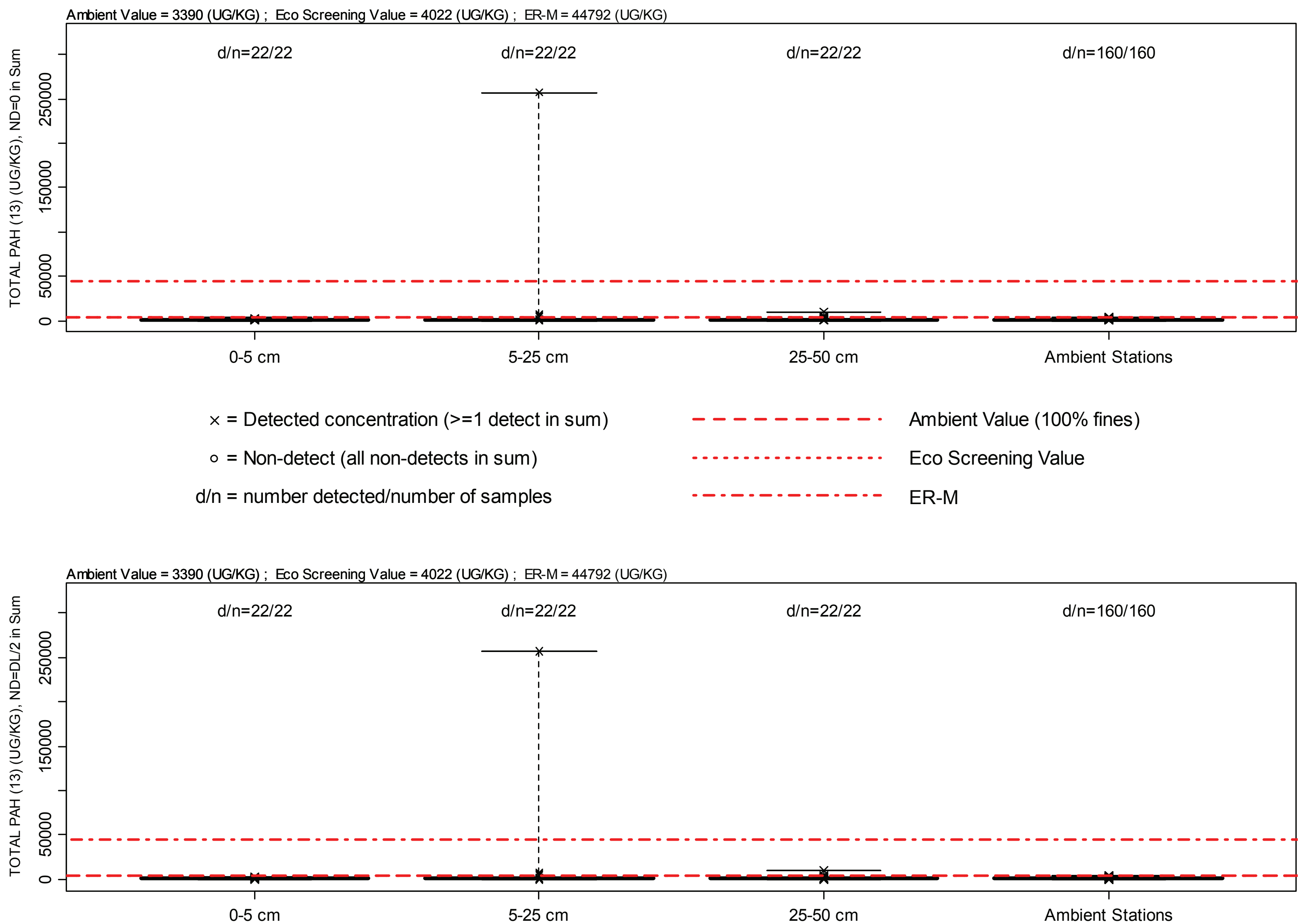
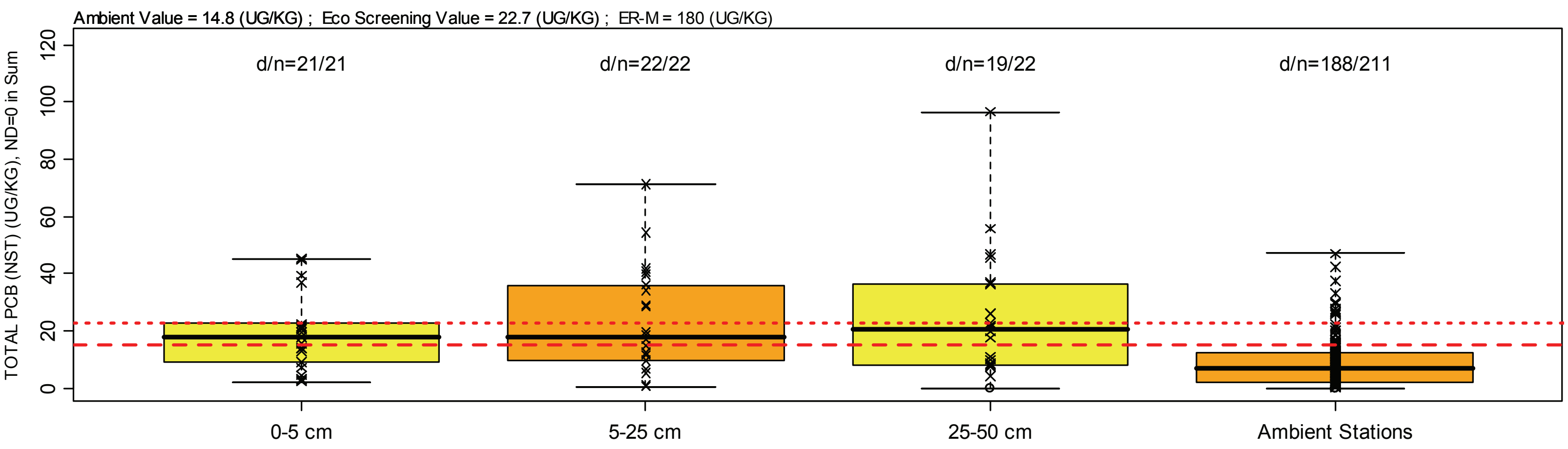


Figure A–113. Box Plots of Total PAH(13) Concentrations in Western Bayside (2005) by Depth.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

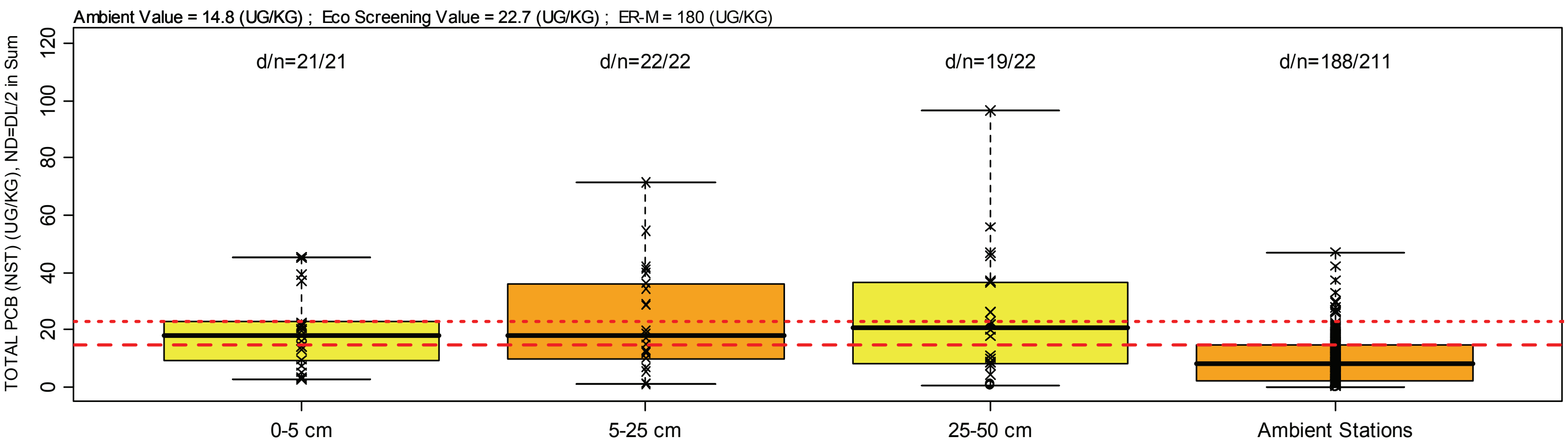


Figure A–114. Box Plots of Total PCB (NST) Concentrations in Western Bayside (2005) by Depth.

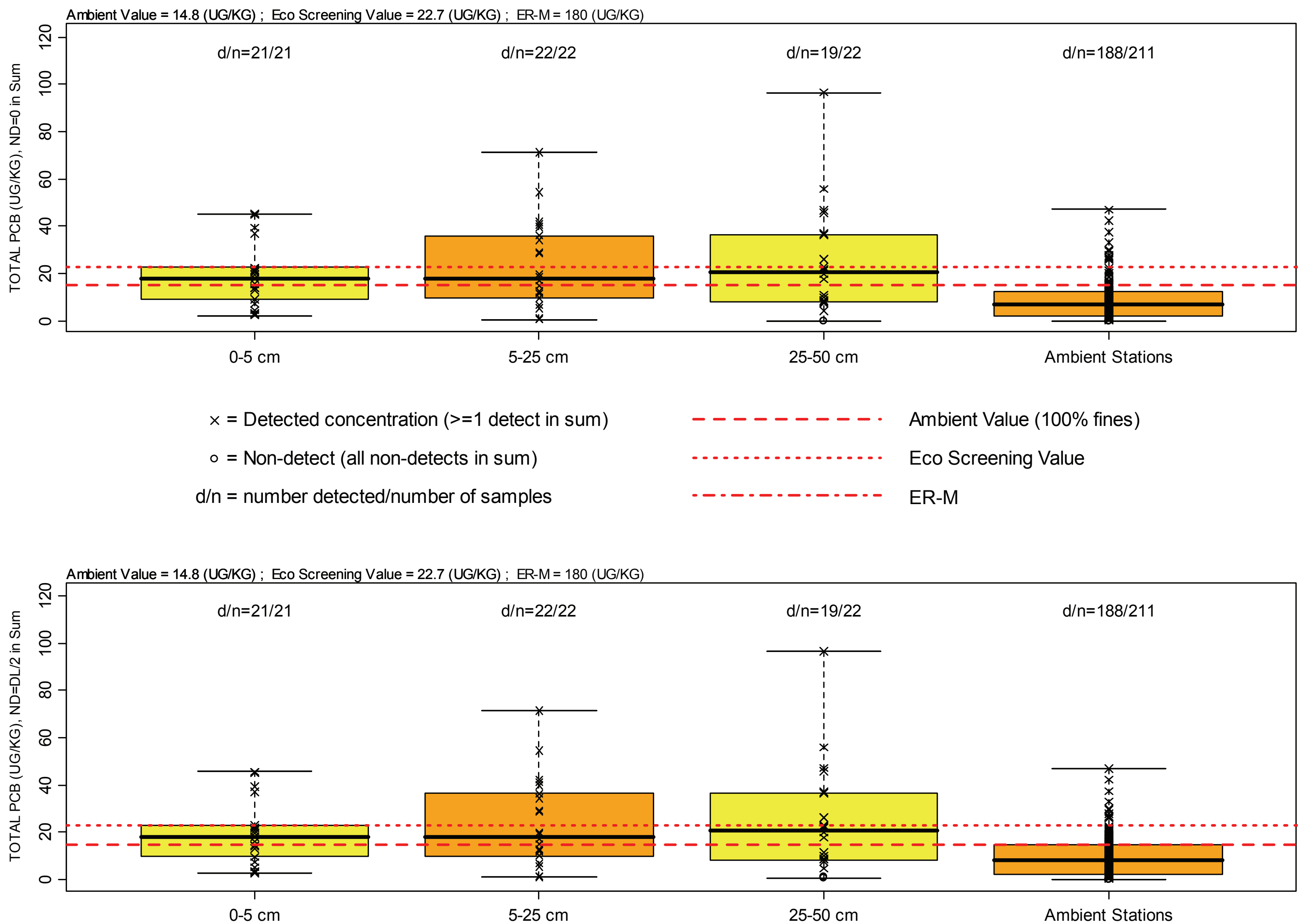


Figure A–115. Box Plots of Total PCB Concentrations in Western Bayside (2005) by Depth.

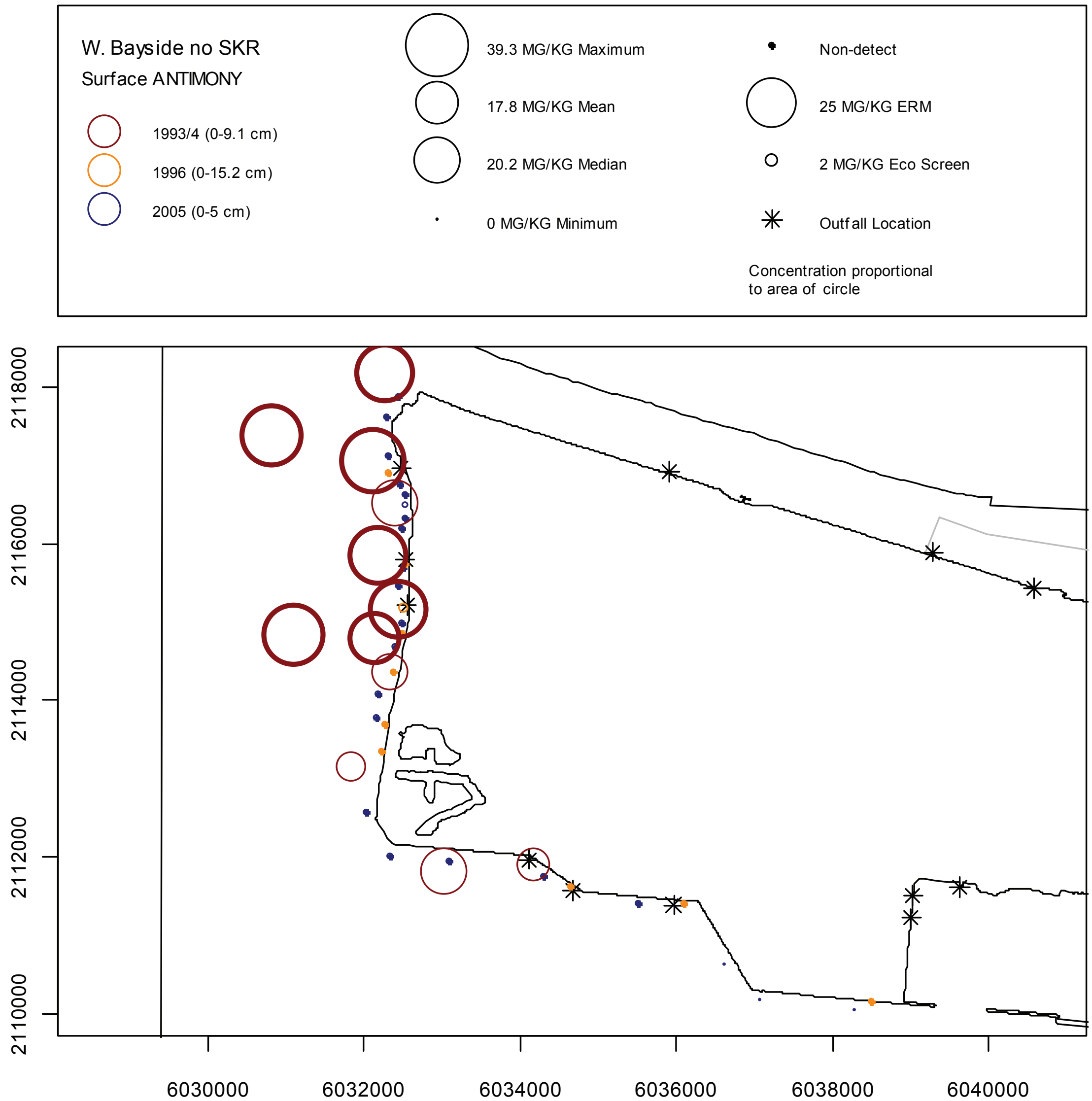


Figure A–116. Bubble Plots of Antimony in Western Bayside Surface Sediment by Year.

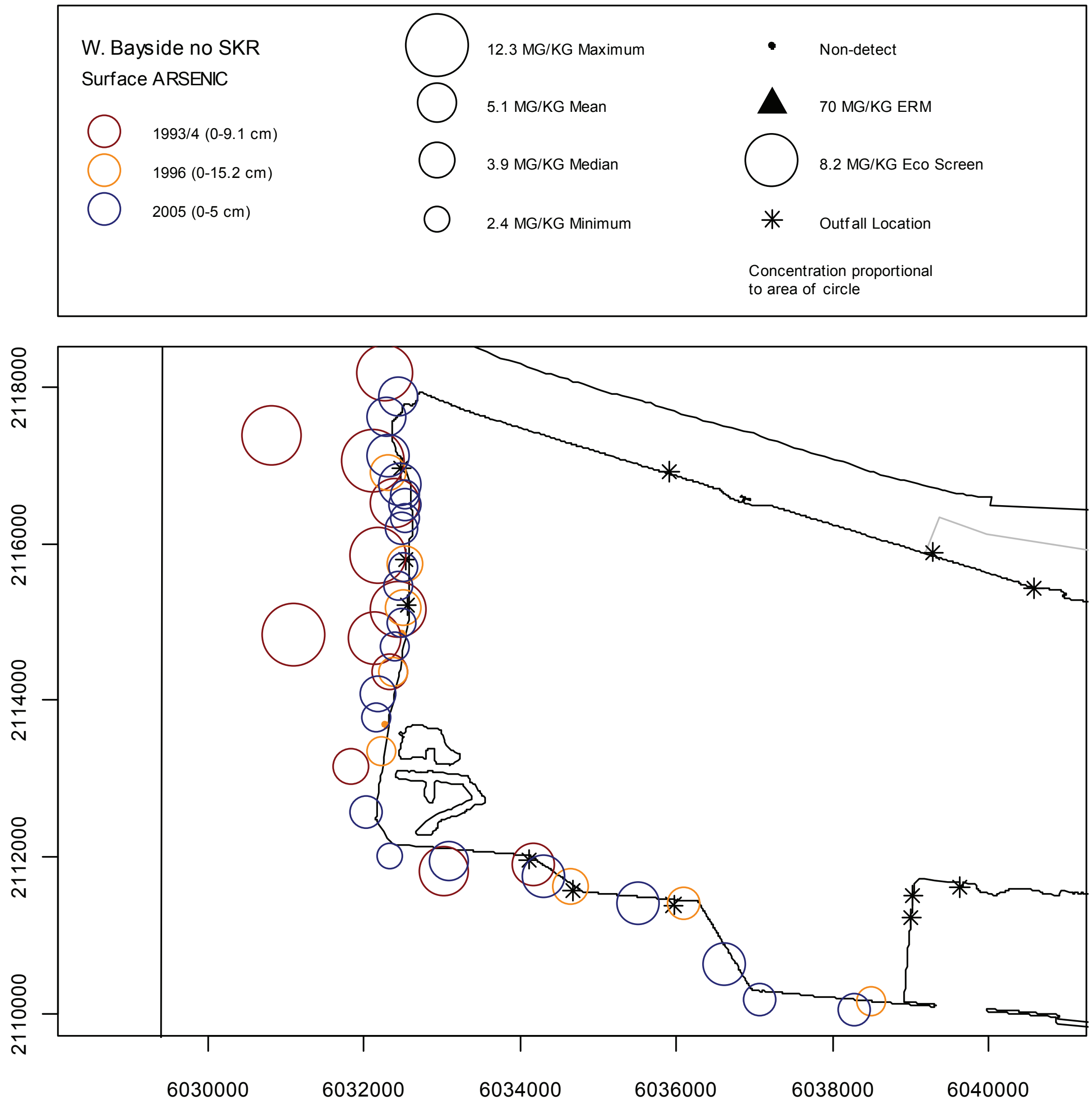


Figure A–117. Bubble Plots of Arsenic in Western Bayside Surface Sediment by Year.

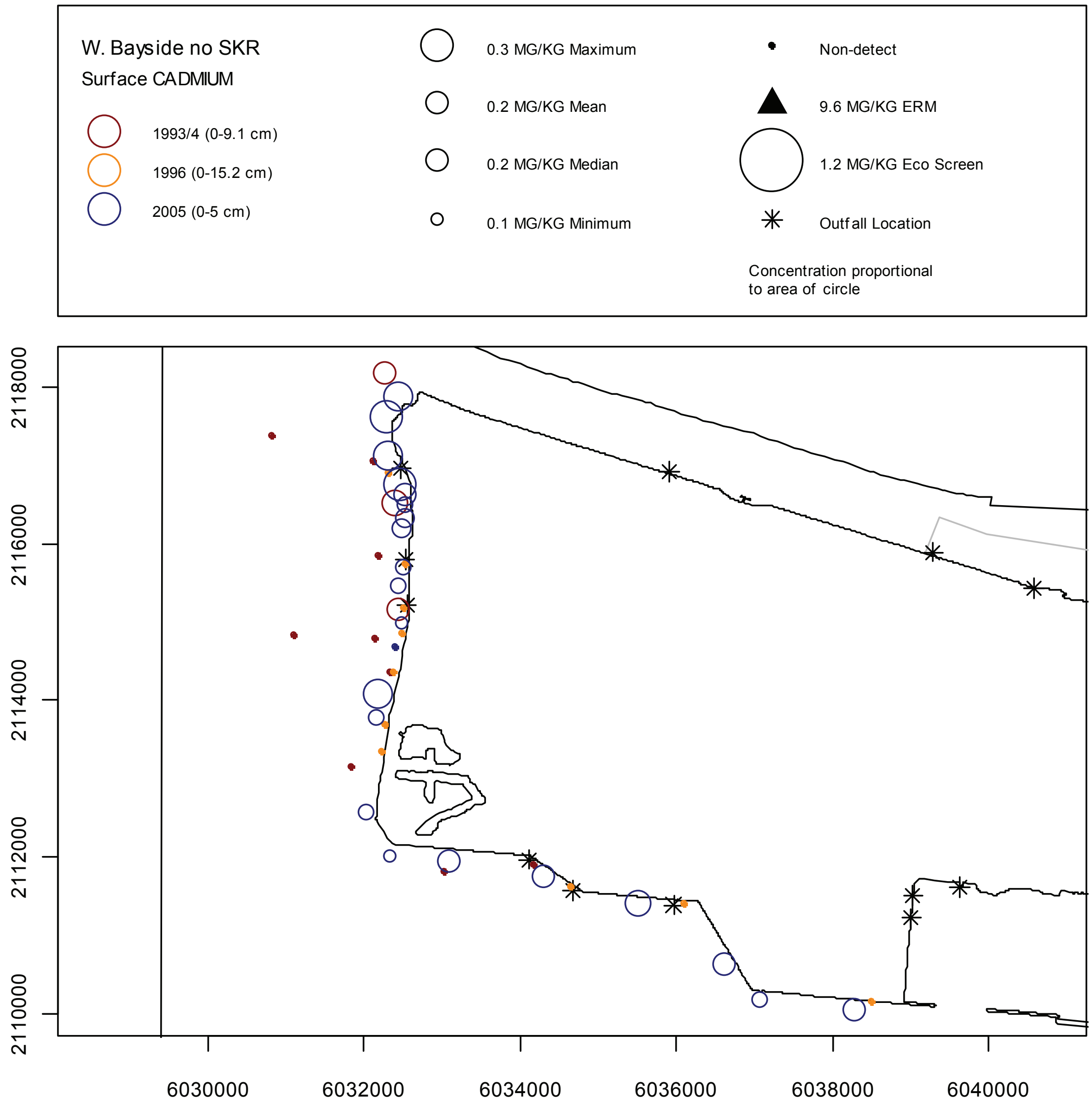


Figure A–118. Bubble Plots of Cadmium in Western Bayside Surface Sediment by Year.

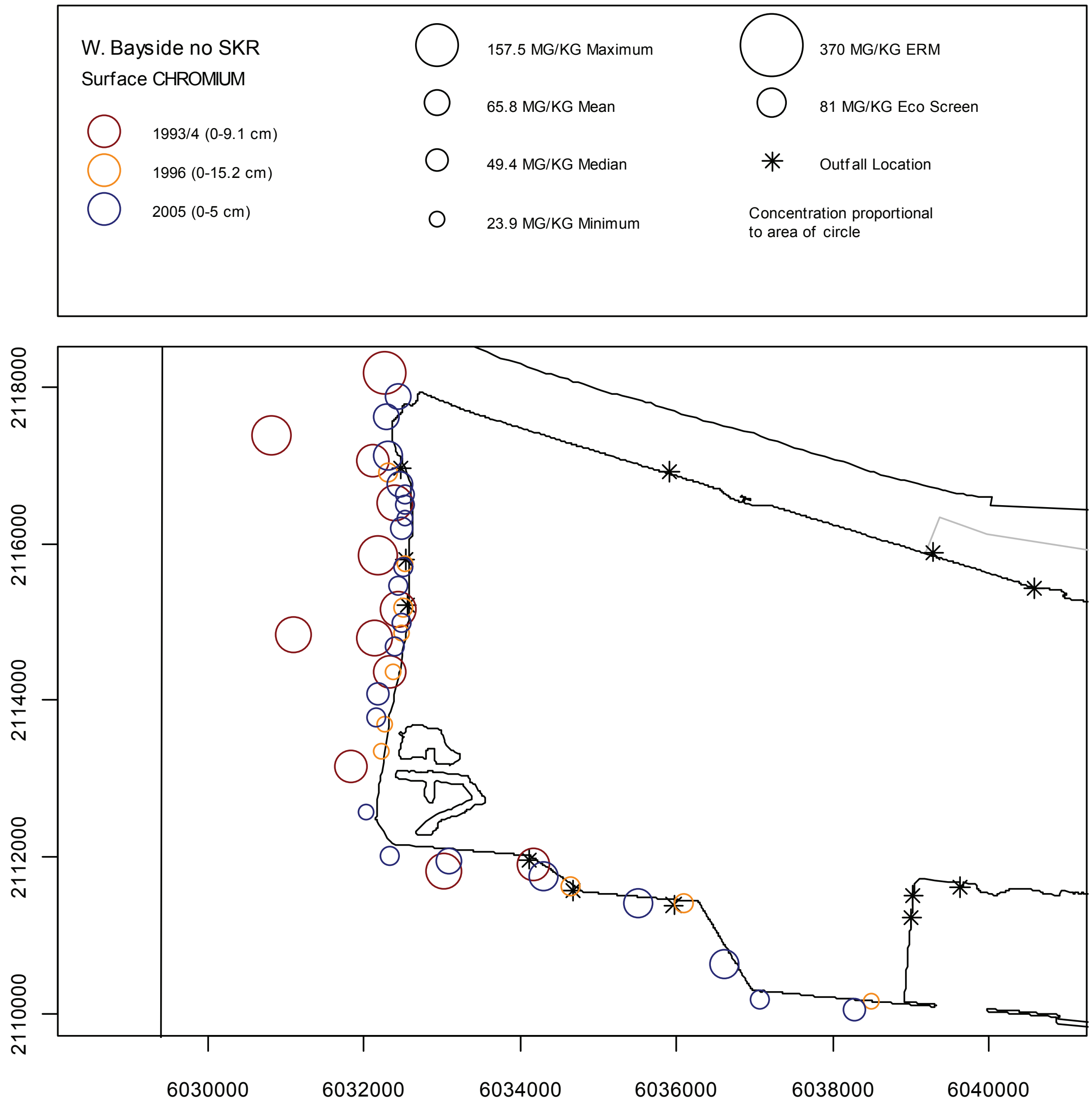


Figure A–119. Bubble Plots of Chromium in Western Bayside Surface Sediment by Year.

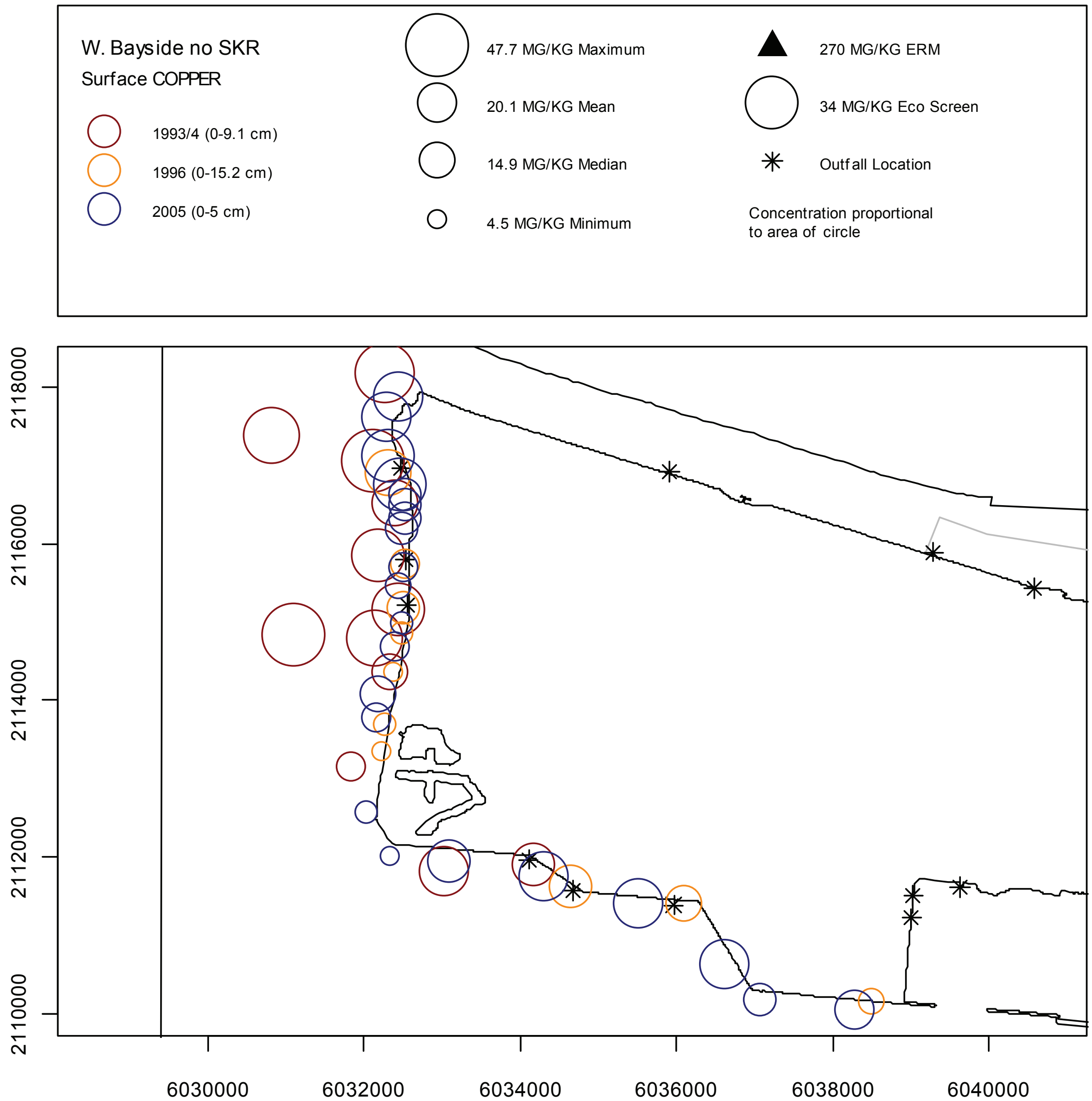


Figure A–120. Bubble Plots of Copper in Western Bayside Surface Sediment by Year.

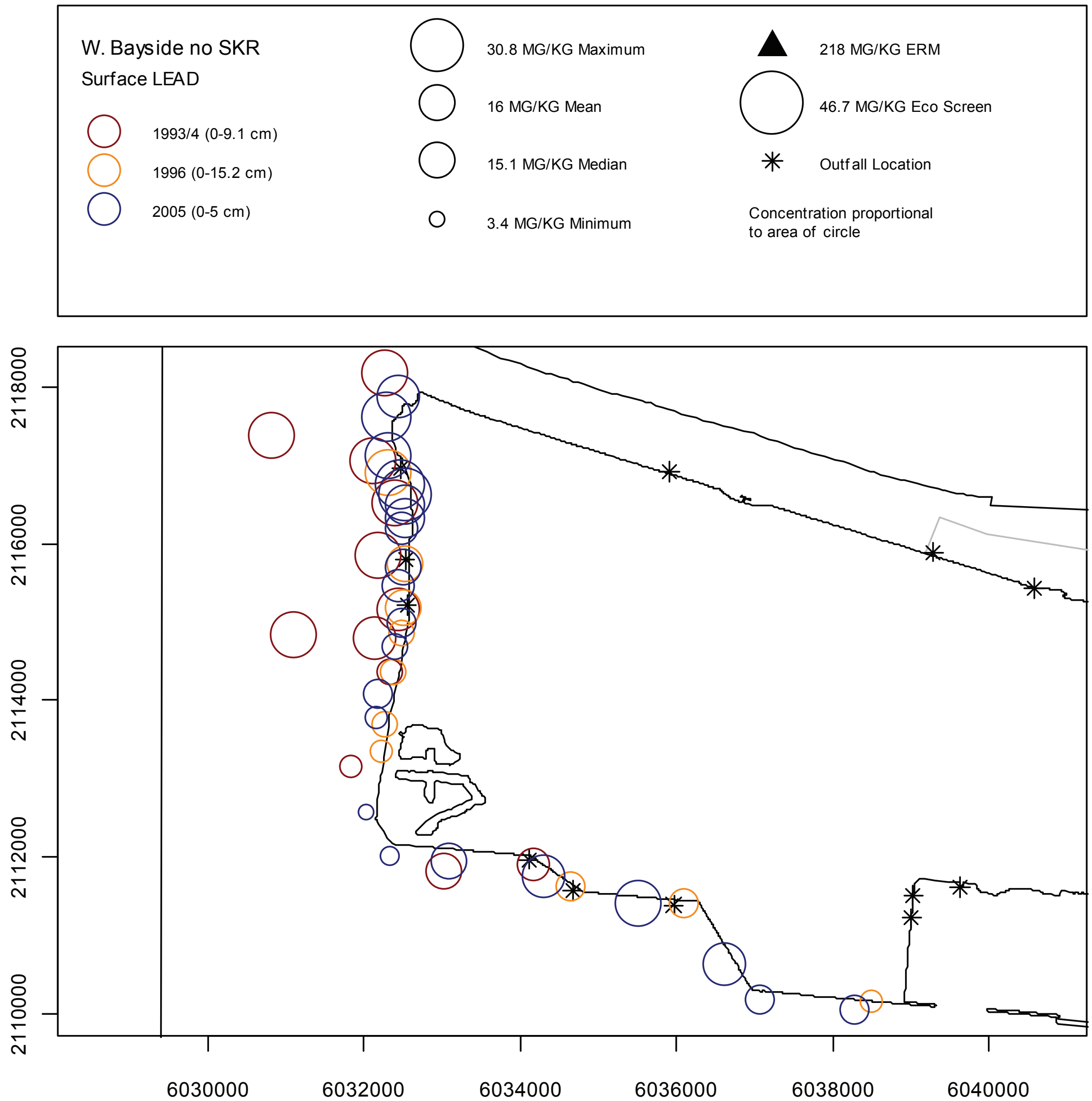


Figure A–121. Bubble Plots of Lead in Western Bayside Surface Sediment by Year.

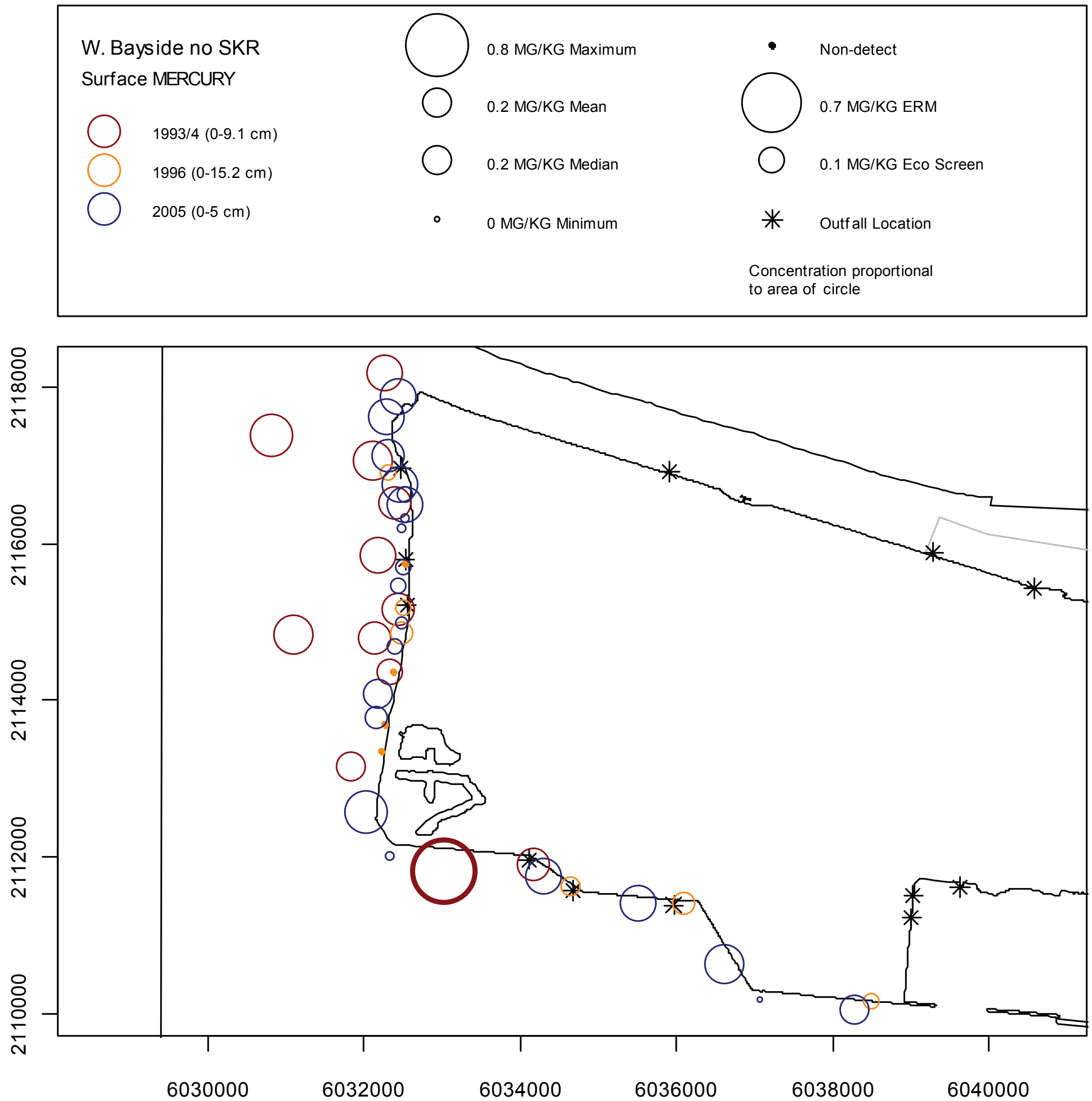


Figure A–122. Bubble Plots of Mercury in Western Bayside Surface Sediment by Year.

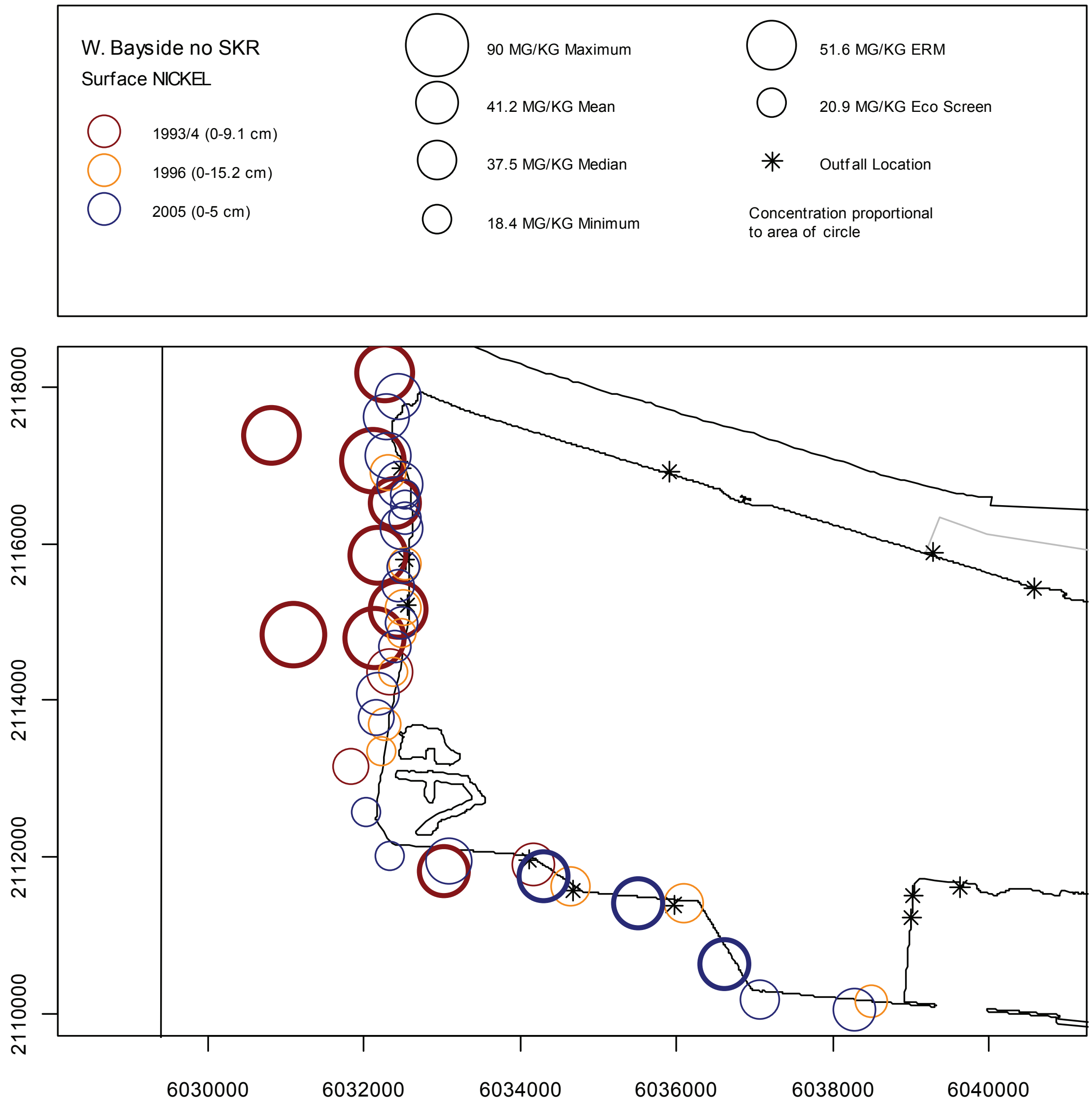


Figure A–123. Bubble Plots of Nickel in Western Bayside Surface Sediment by Year.

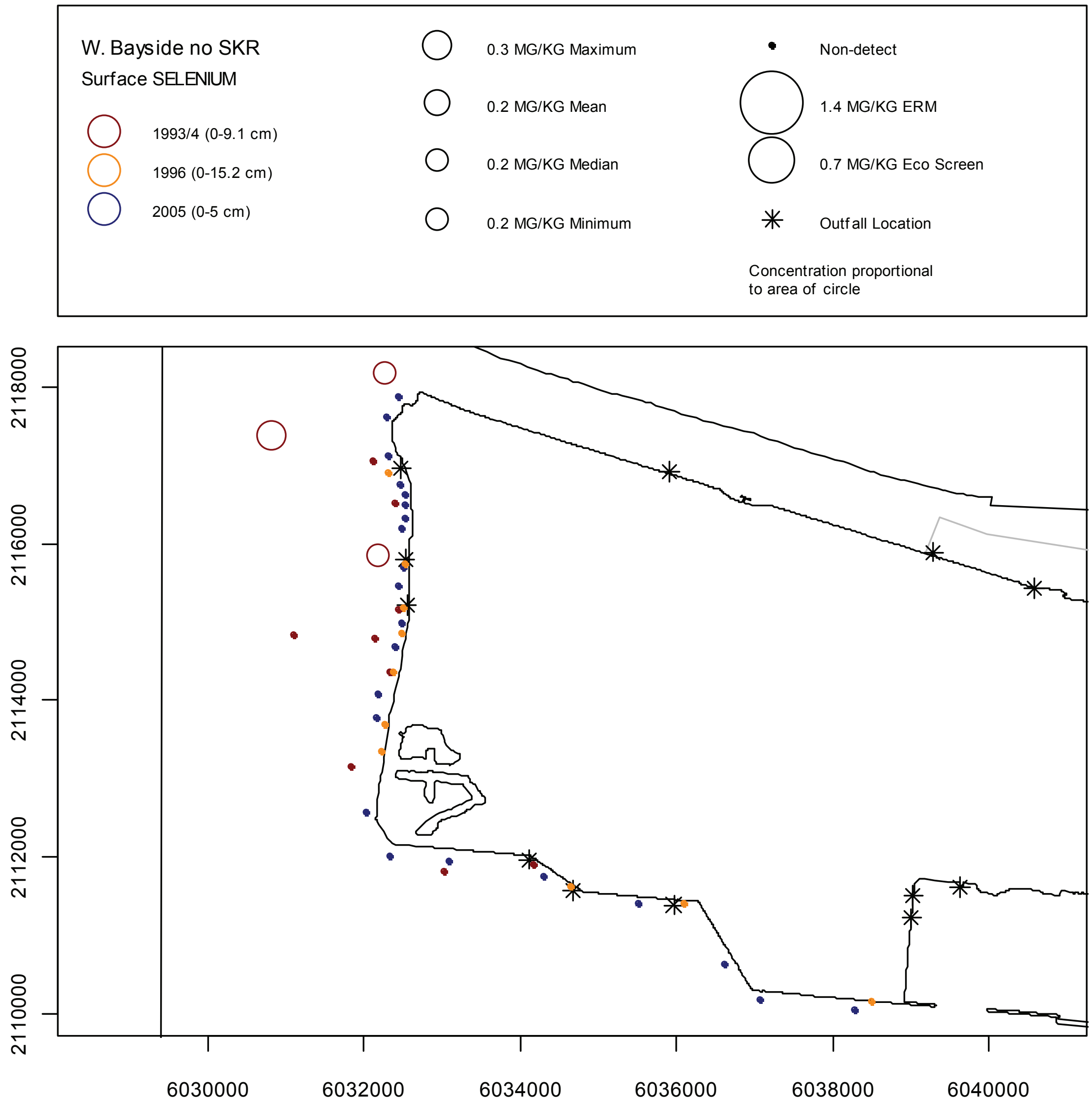


Figure A–124. Bubble Plots of Selenium in Western Bayside Surface Sediment by Year.

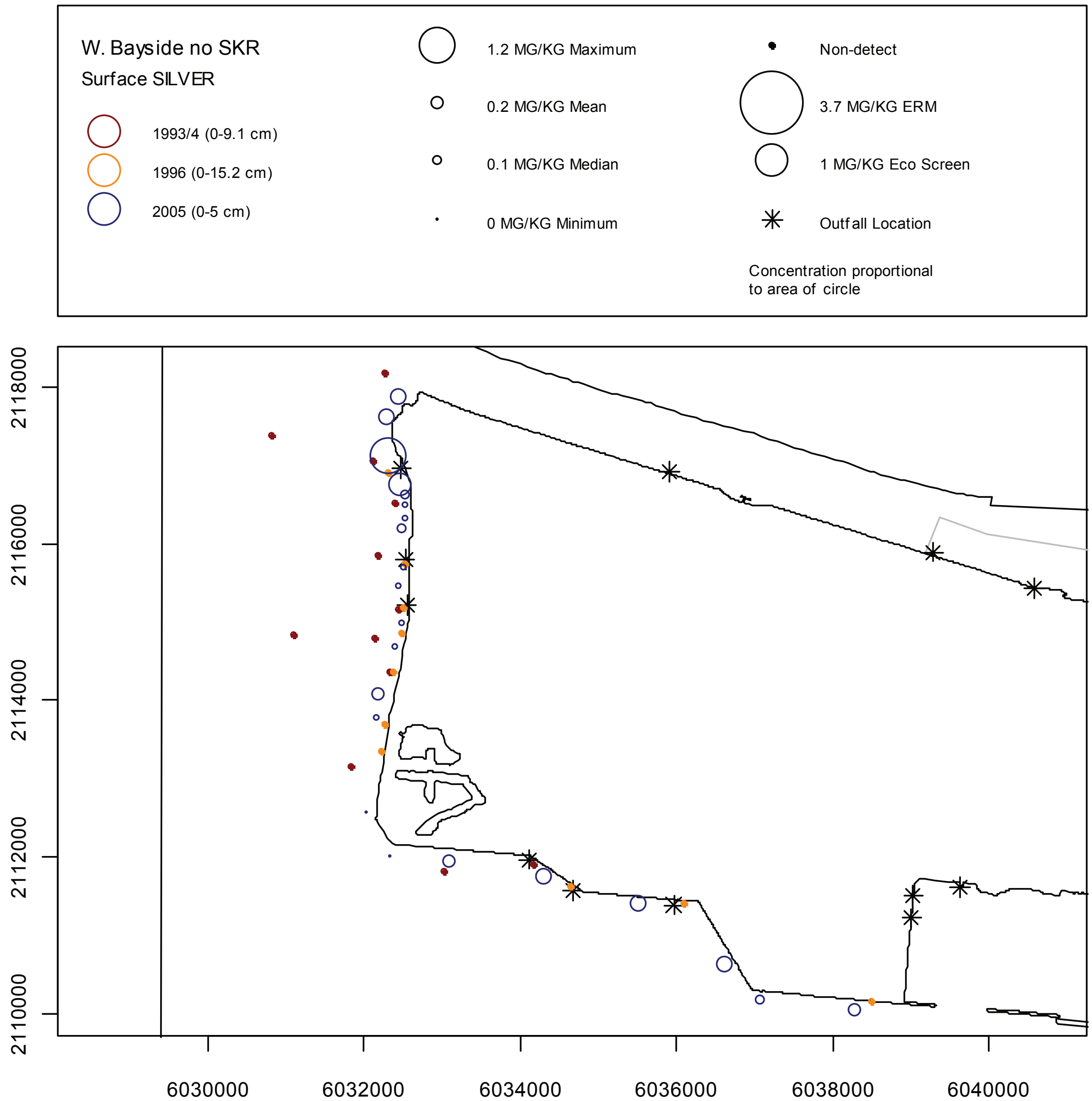


Figure A–125. Bubble Plots of Silver in Western Bayside Surface Sediment by Year.

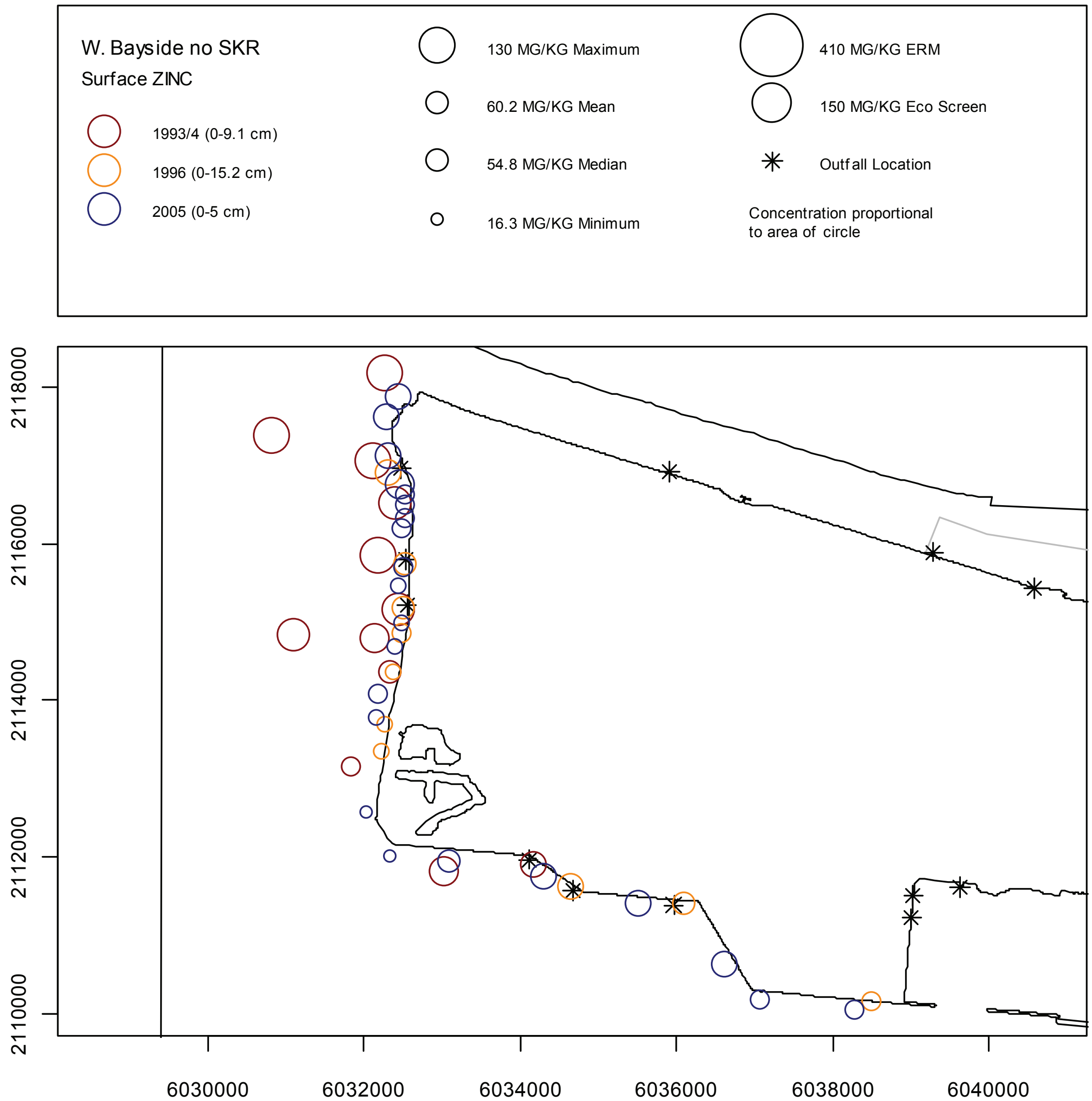


Figure A–126. Bubble Plots of Zinc in Western Bayside Surface Sediment by Year.

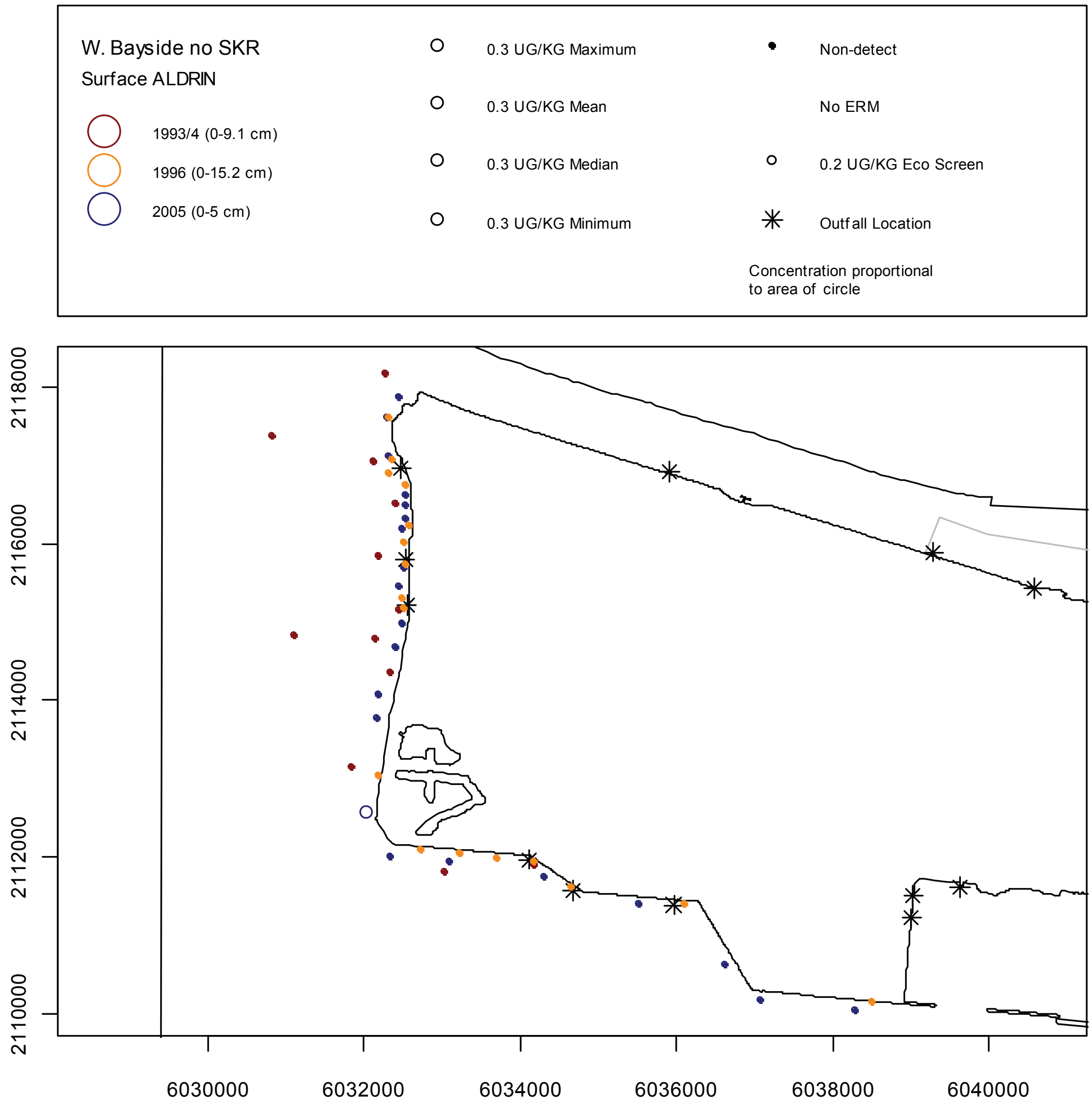


Figure A–127. Bubble Plots of Aldrin in Western Bayside Surface Sediment by Year.

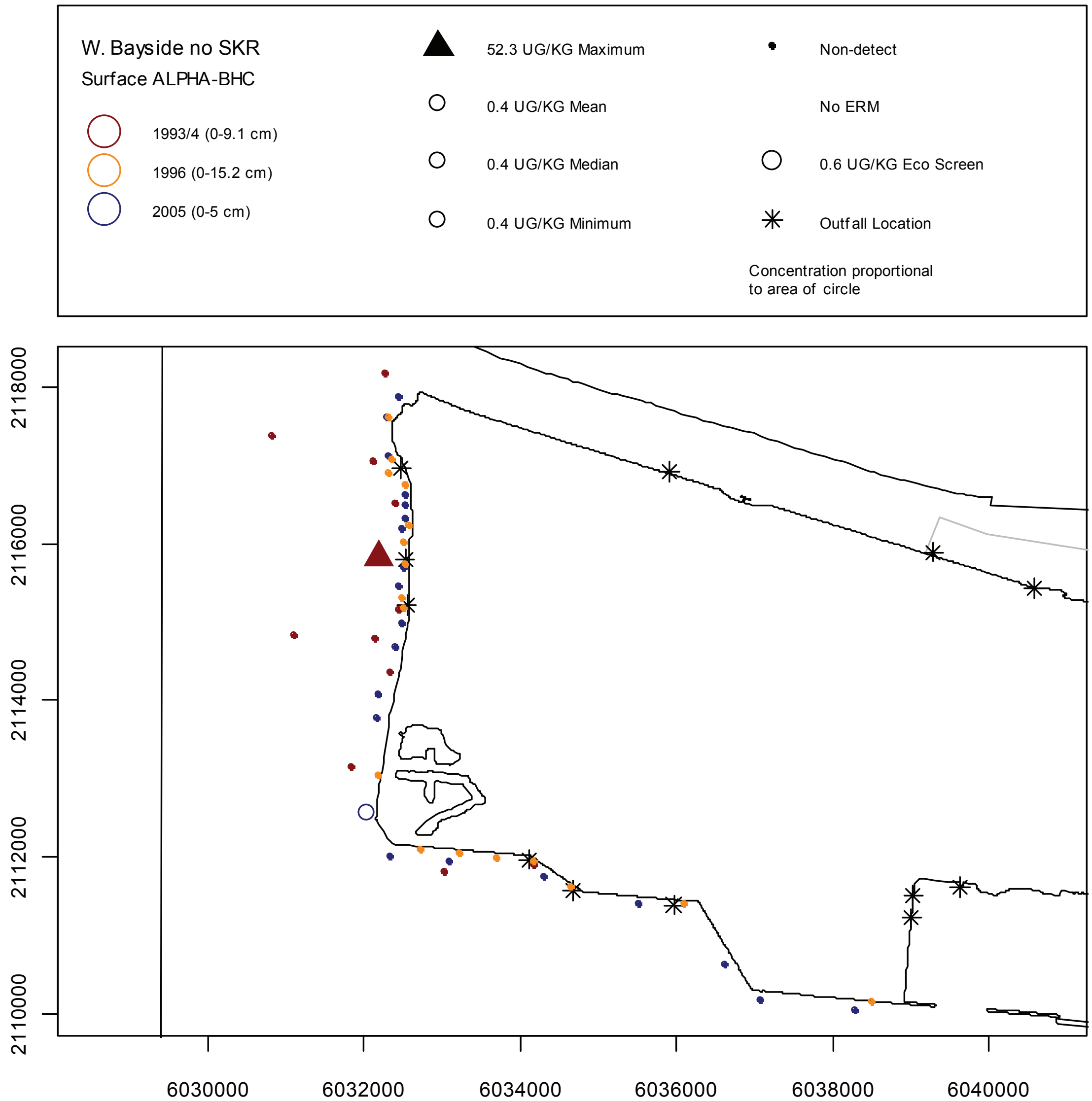


Figure A–128. Bubble Plots of *alpha*-BHC in Western Bayside Surface Sediment by Year.

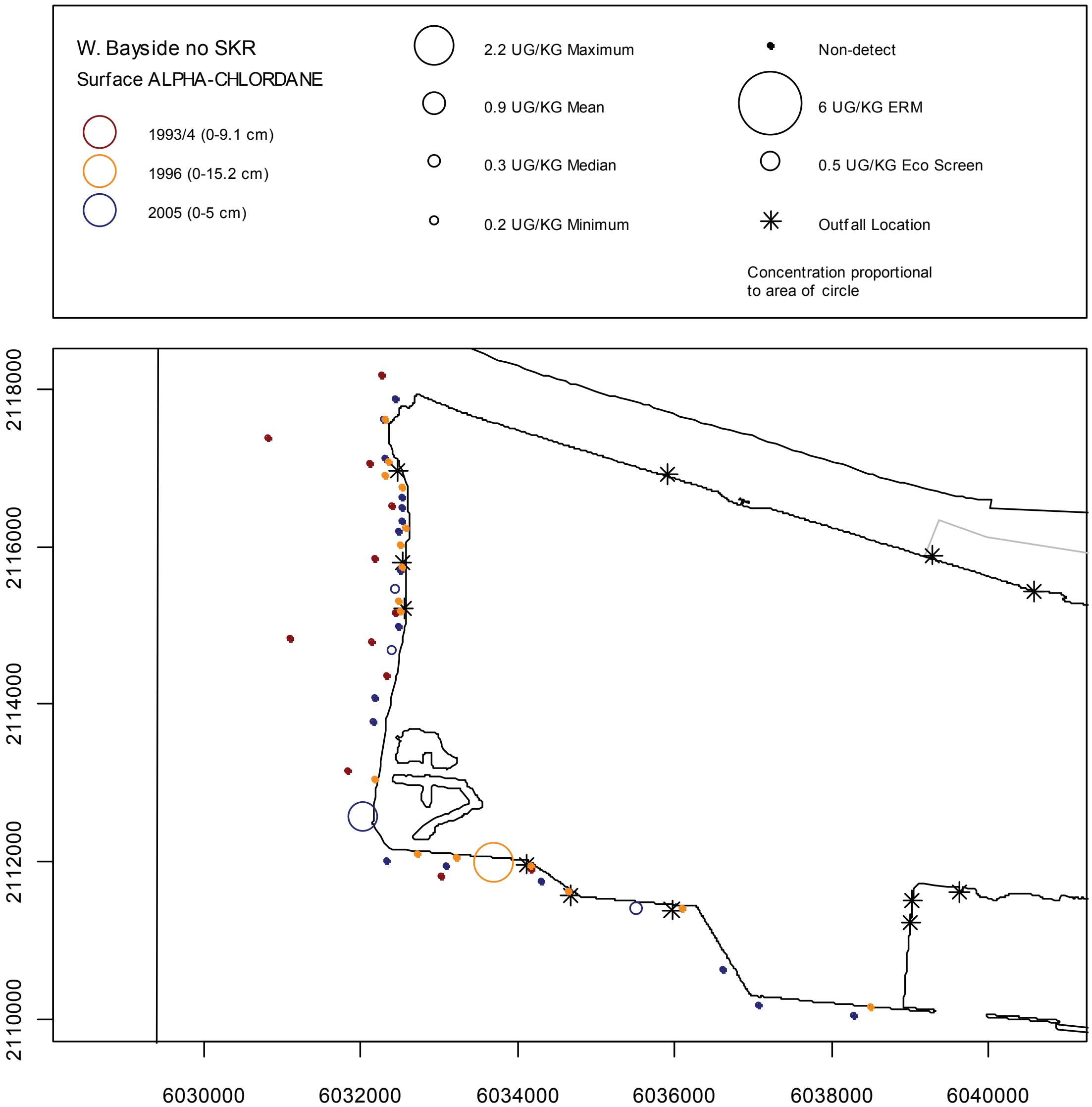


Figure A–129. Bubble Plots of *alpha*-Chlordane in Western Bayside Surface Sediment by Year.

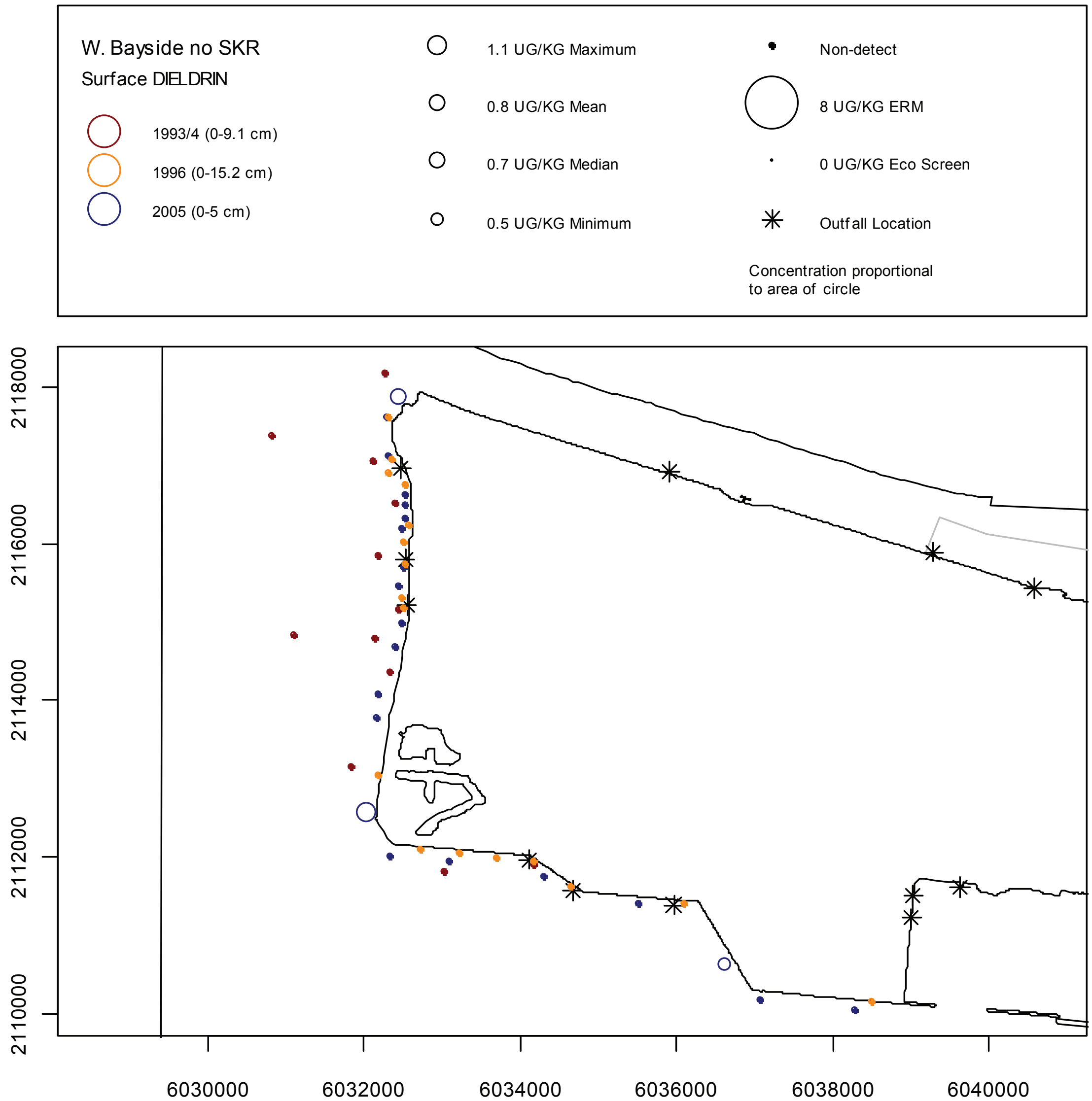


Figure A–130. Bubble Plots of Dieldrin in Western Bayside Surface Sediment by Year.

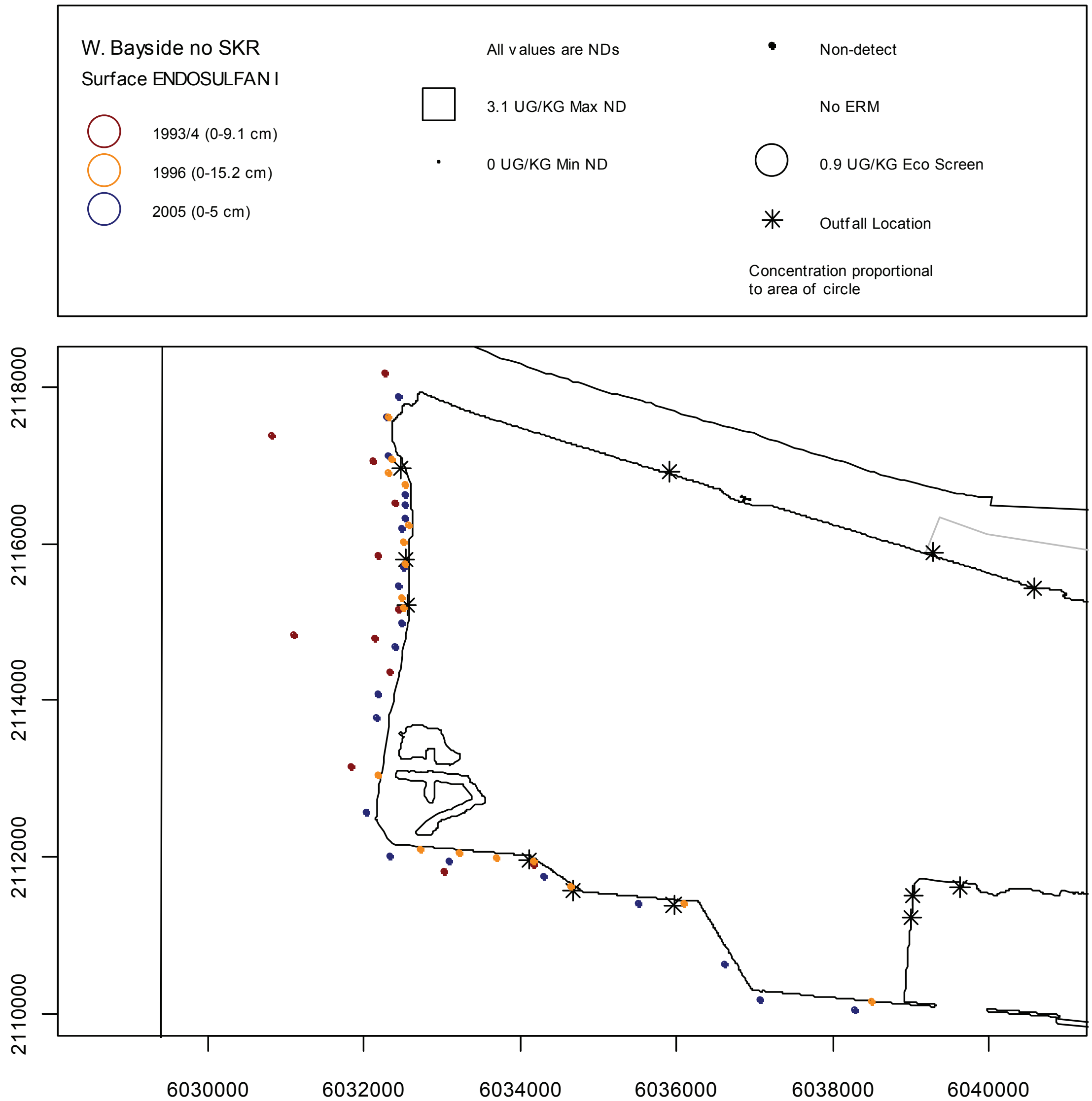


Figure A–131. Bubble Plots of Endosulfan I in Western Bayside Surface Sediment by Year.

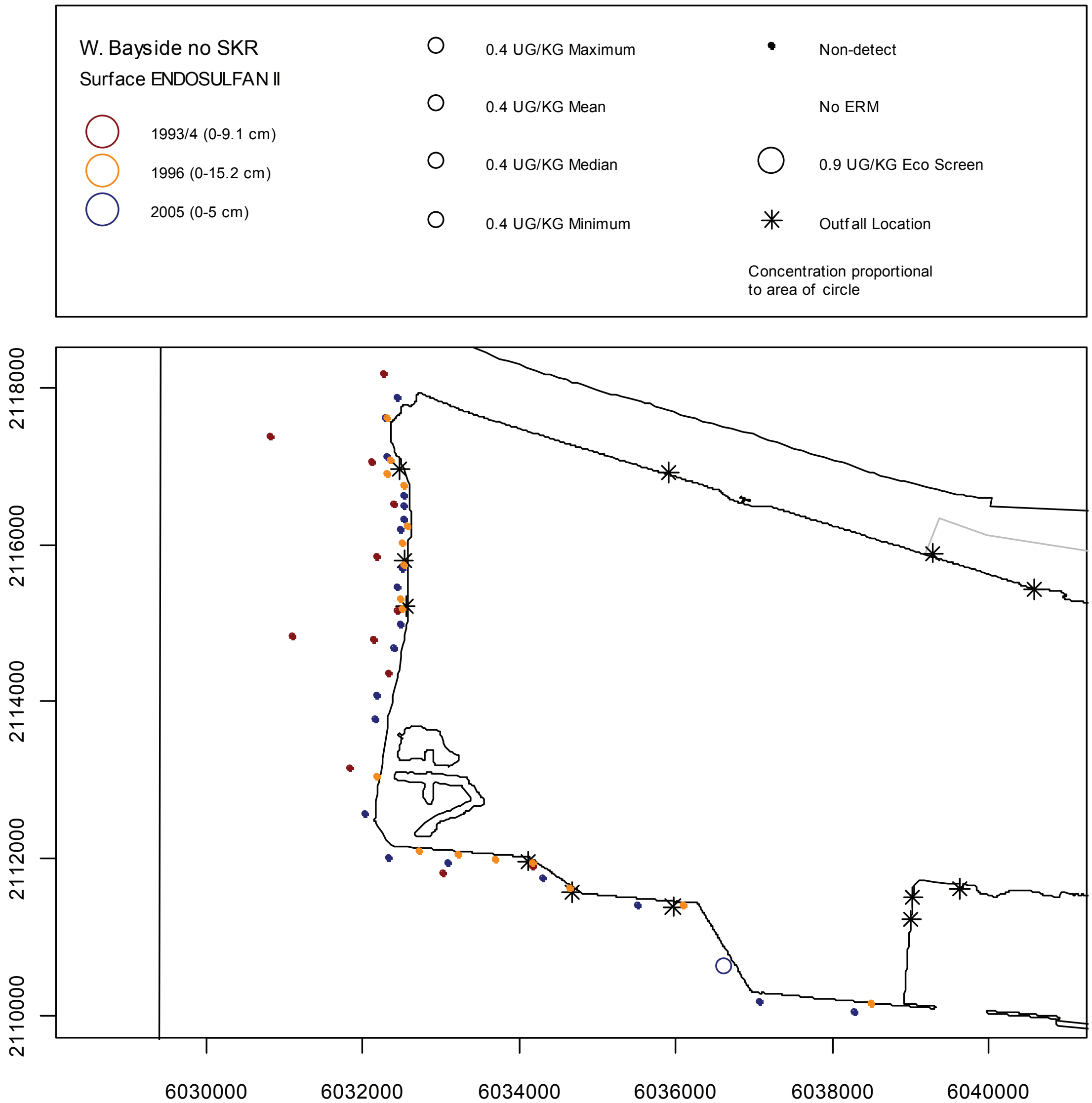


Figure A–132. Bubble Plots of Endosulfan II in Western Bayside Surface Sediment by Year.

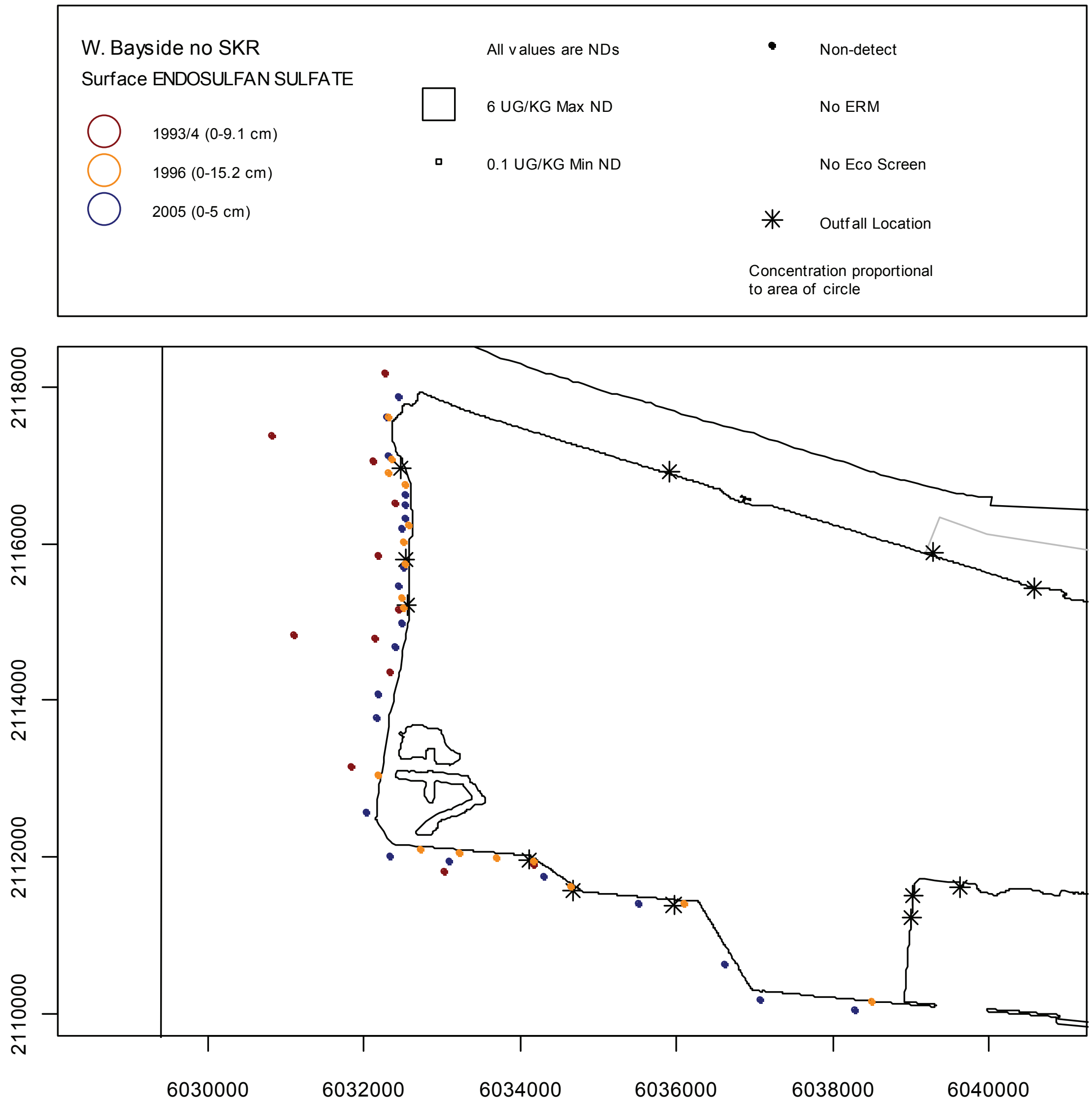


Figure A–133. Bubble Plots of Endosulfan Sulfate in Western Bayside Surface Sediment by Year.

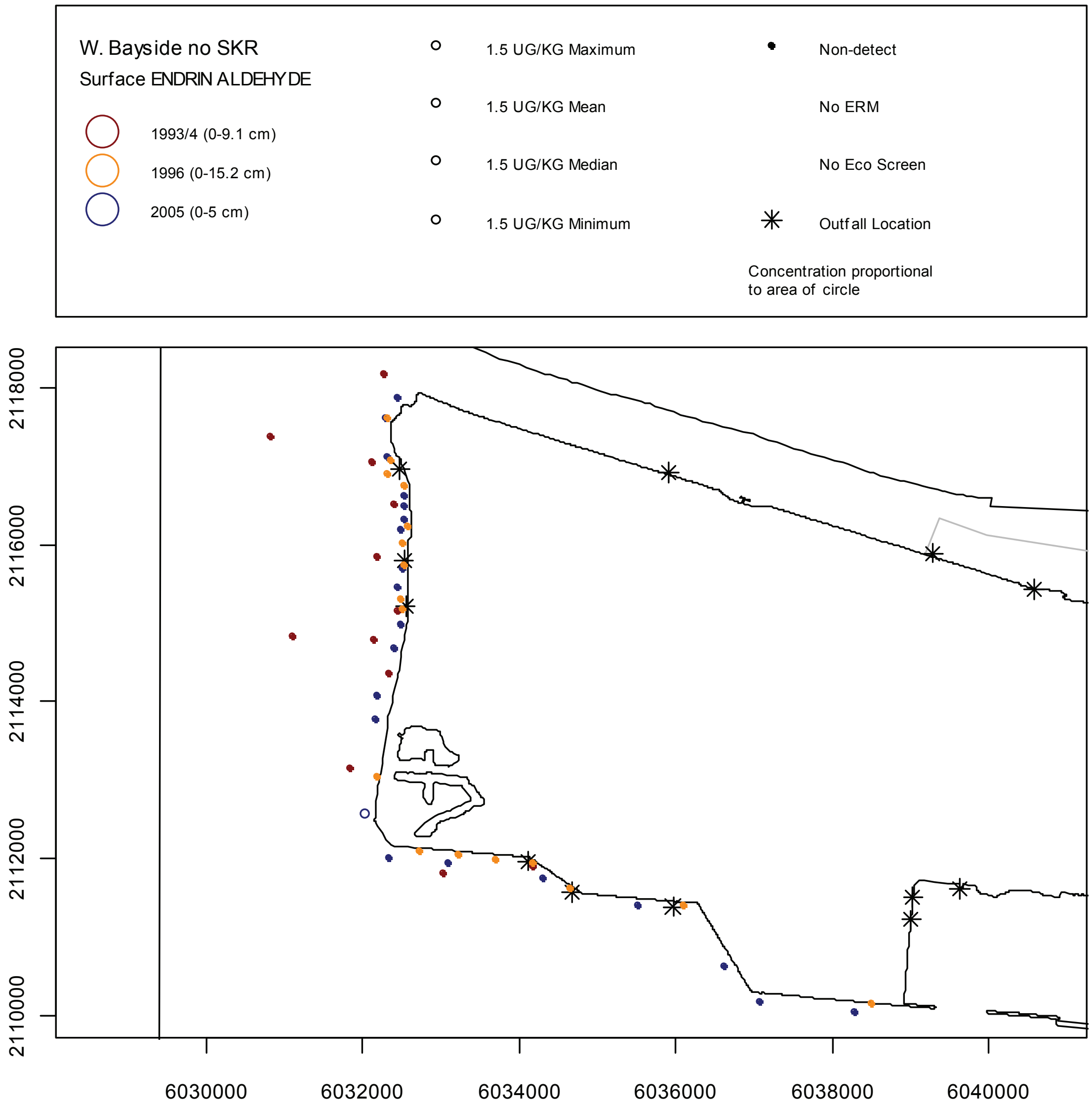


Figure A–134. Bubble Plots of Endrin Aldehyde in Western Bayside Surface Sediment by Year.

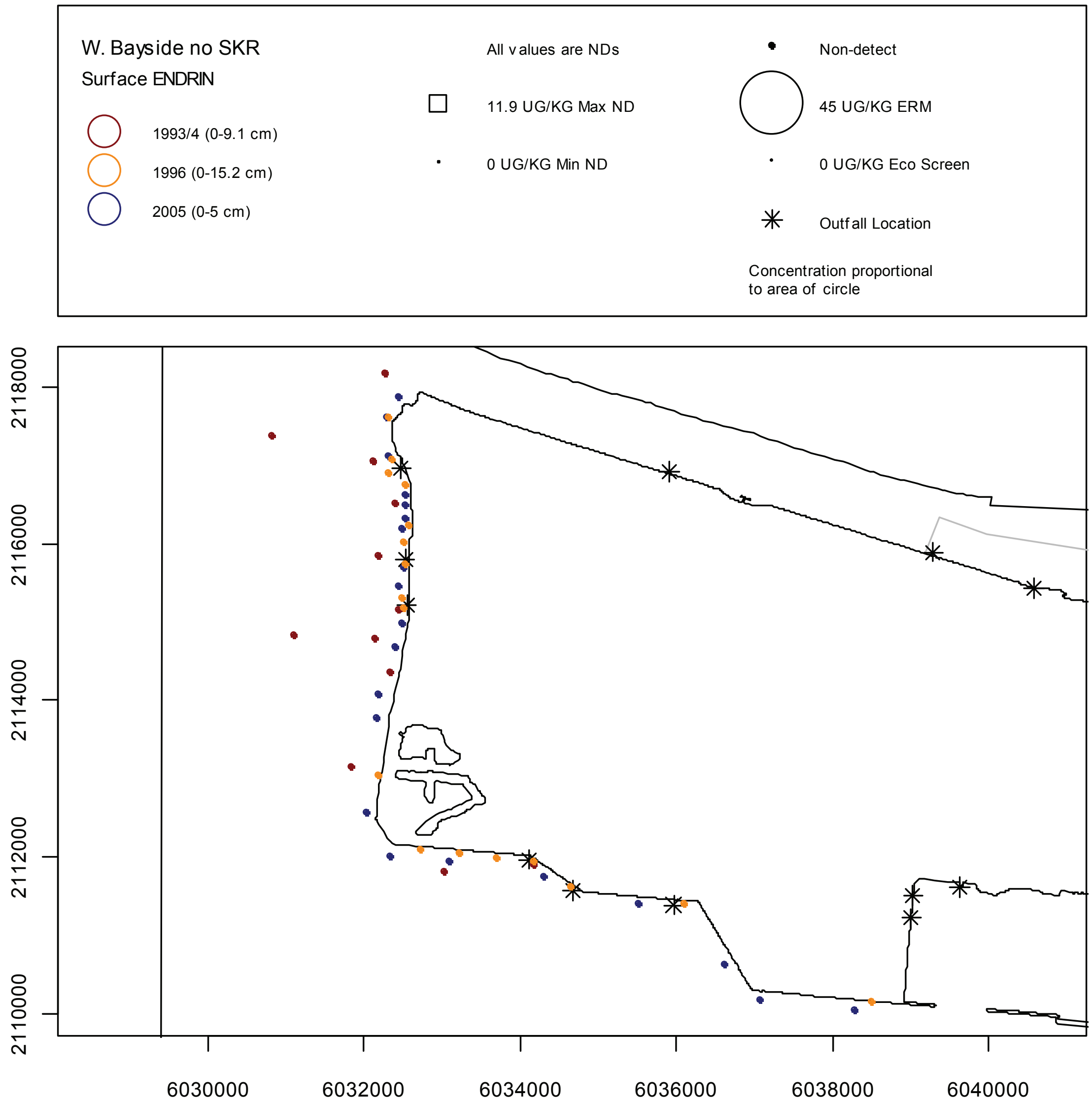


Figure A–135. Bubble Plots of Endrin in Western Bayside Surface Sediment by Year.

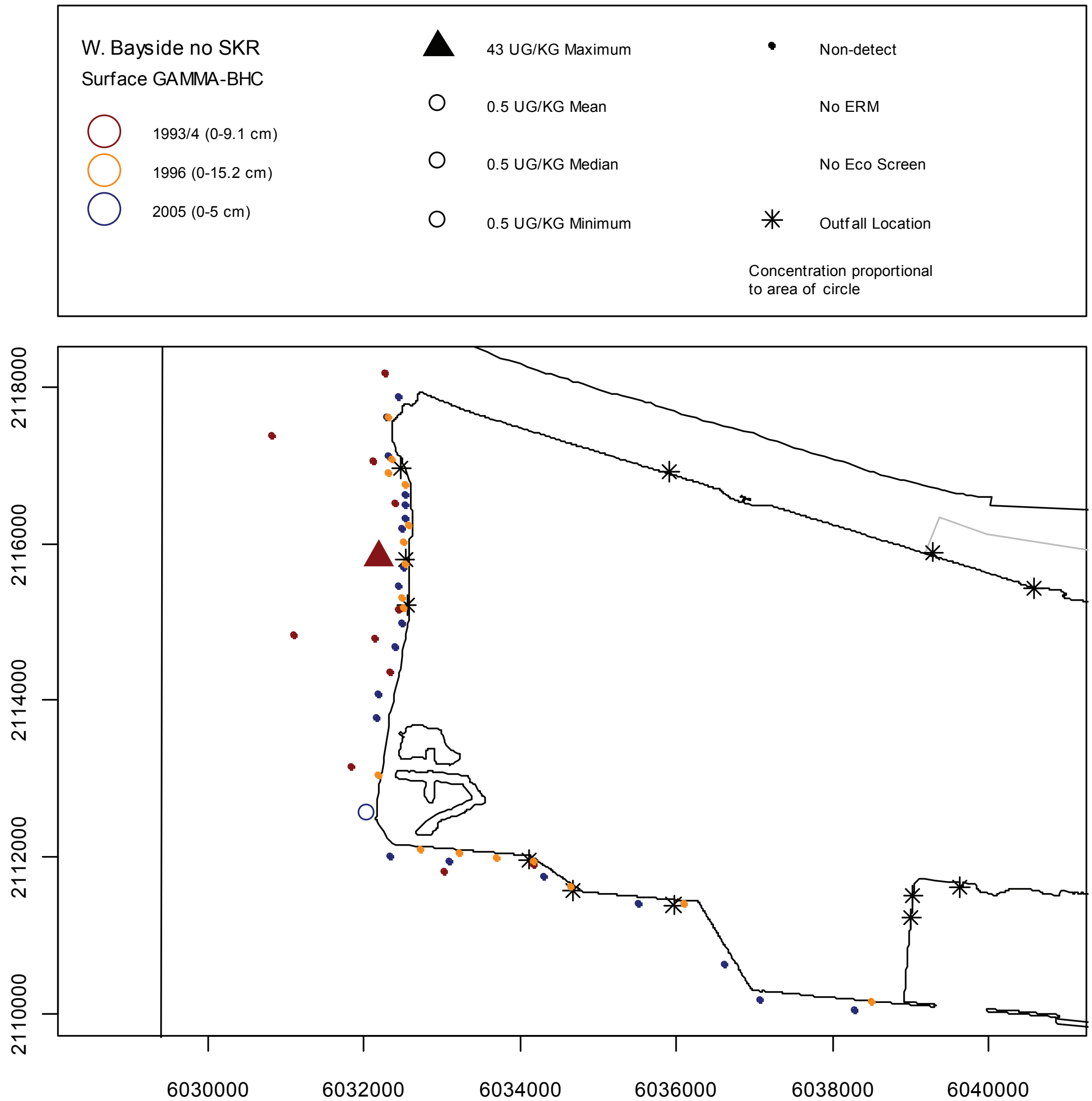


Figure A–136. Bubble Plots of *gamma*-BHC in Western Bayside Surface Sediment by Year.

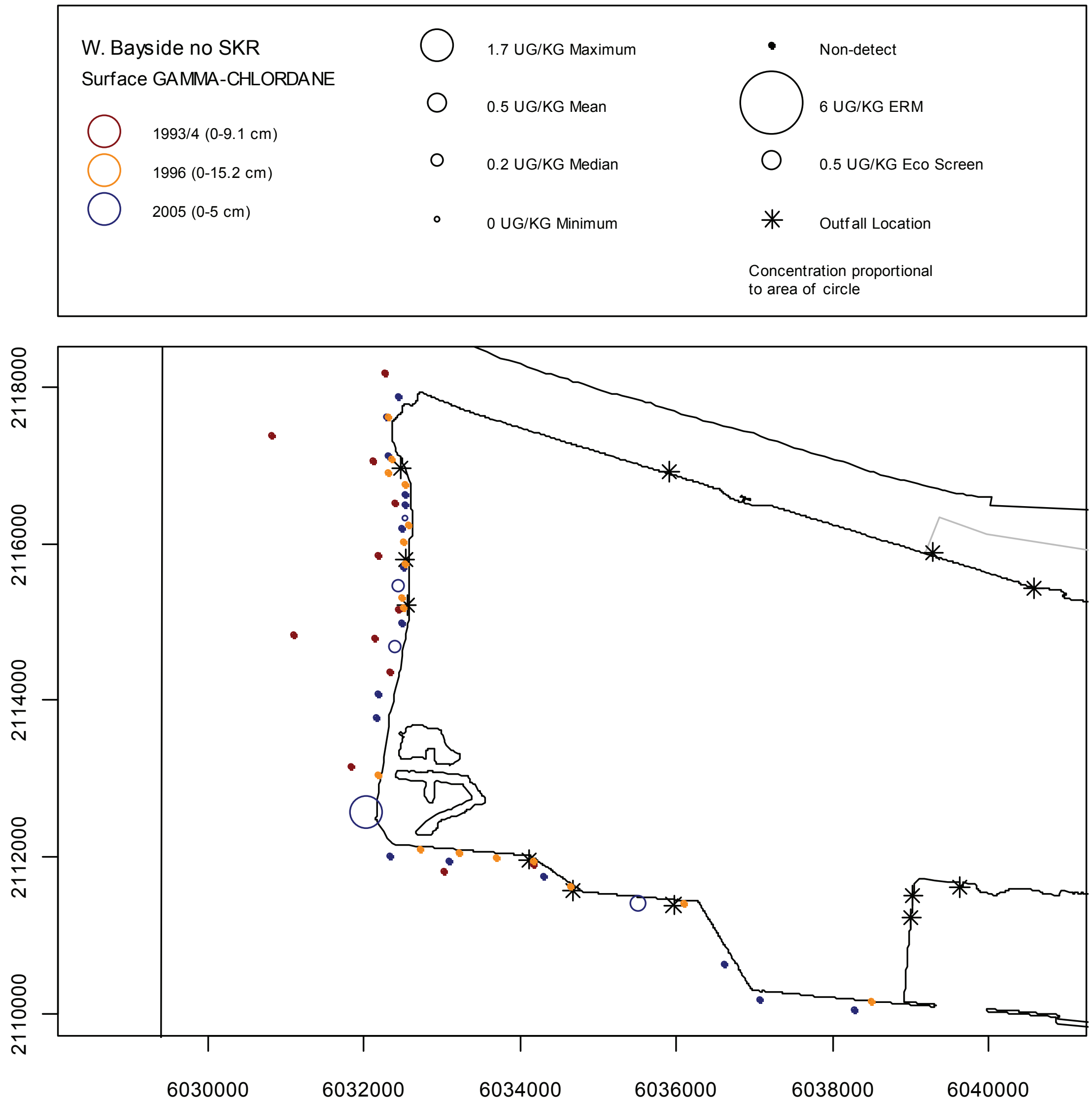


Figure A–137. Bubble Plots of *gamma*-Chlordane in Western Bayside Surface Sediment by Year.

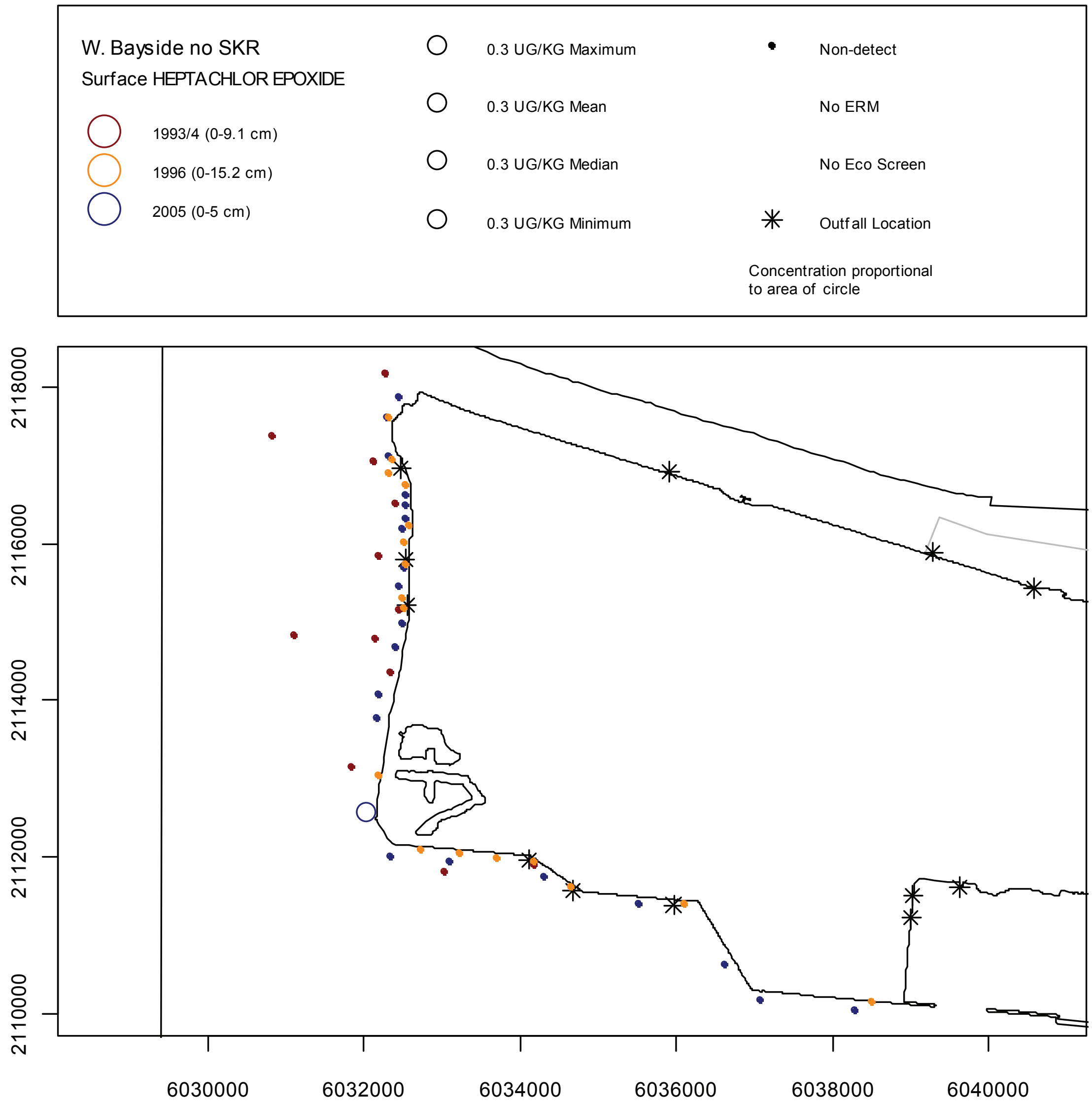


Figure A–138. Bubble Plots of Heptachlor Epoxide in Western Bayside Surface Sediment by Year.

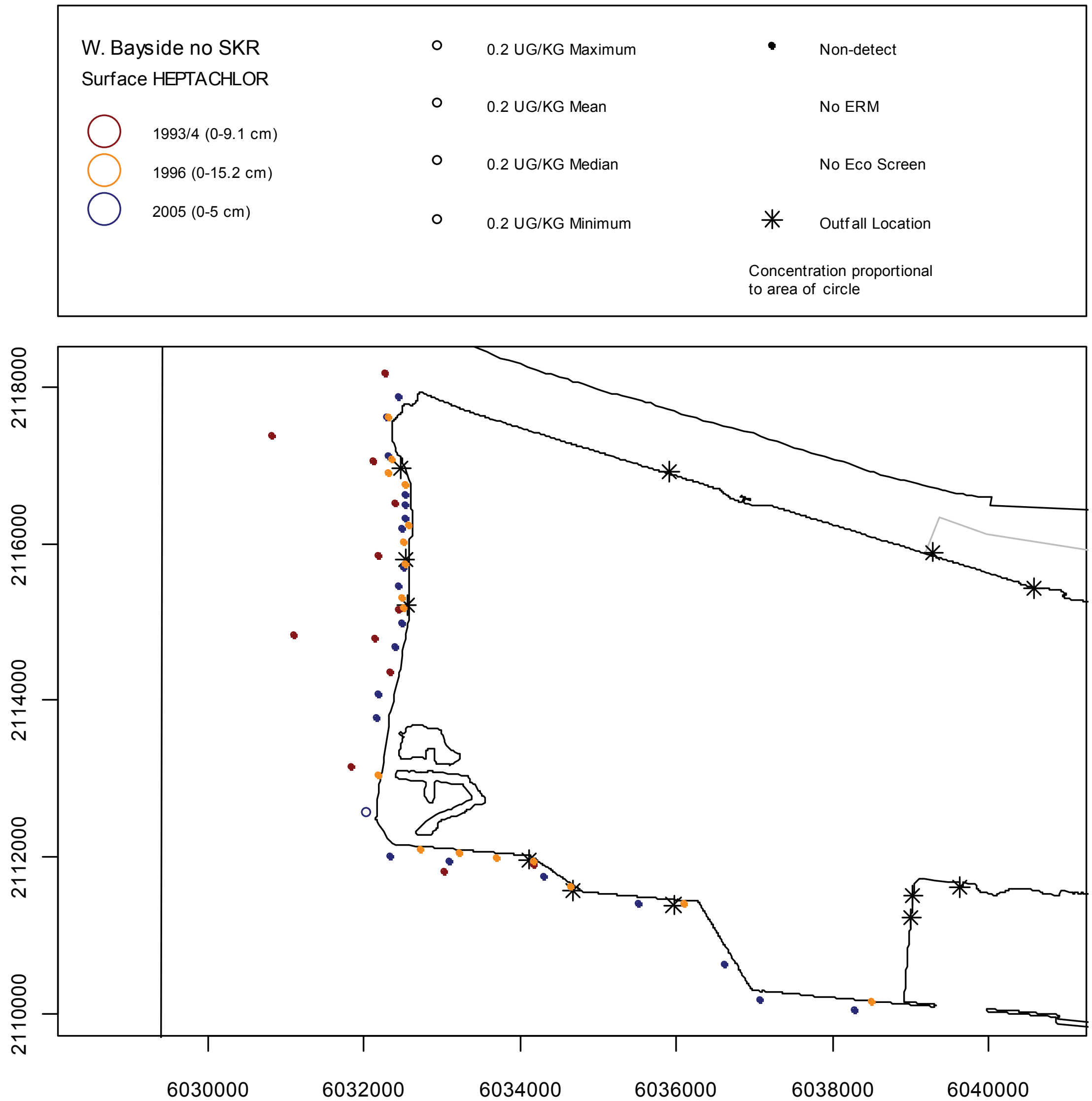


Figure A–139. Bubble Plots of Heptachlor in Western Bayside Surface Sediment by Year.

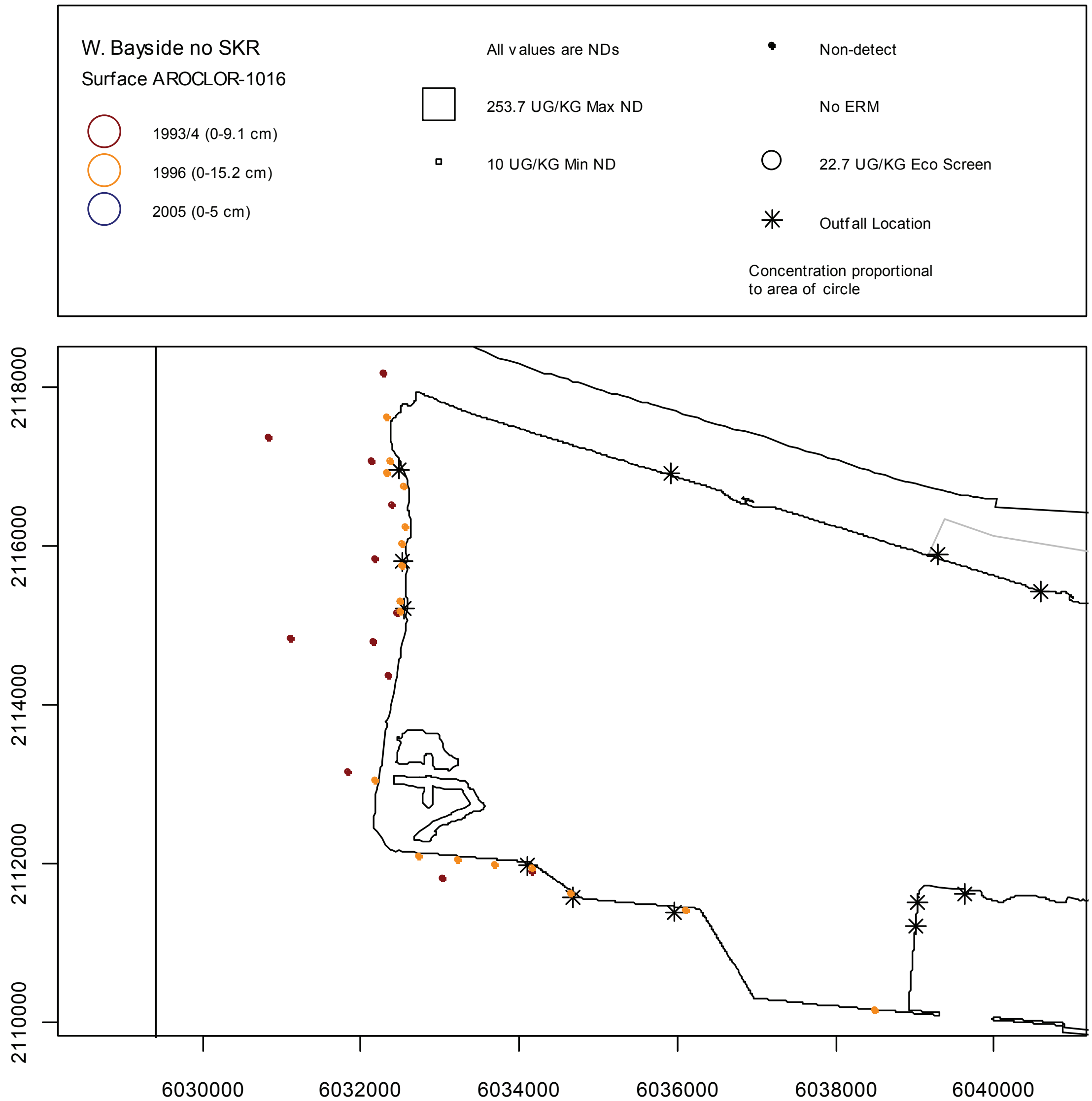


Figure A–140. Bubble Plots of Aroclor-1016 in Western Bayside Surface Sediment by Year.

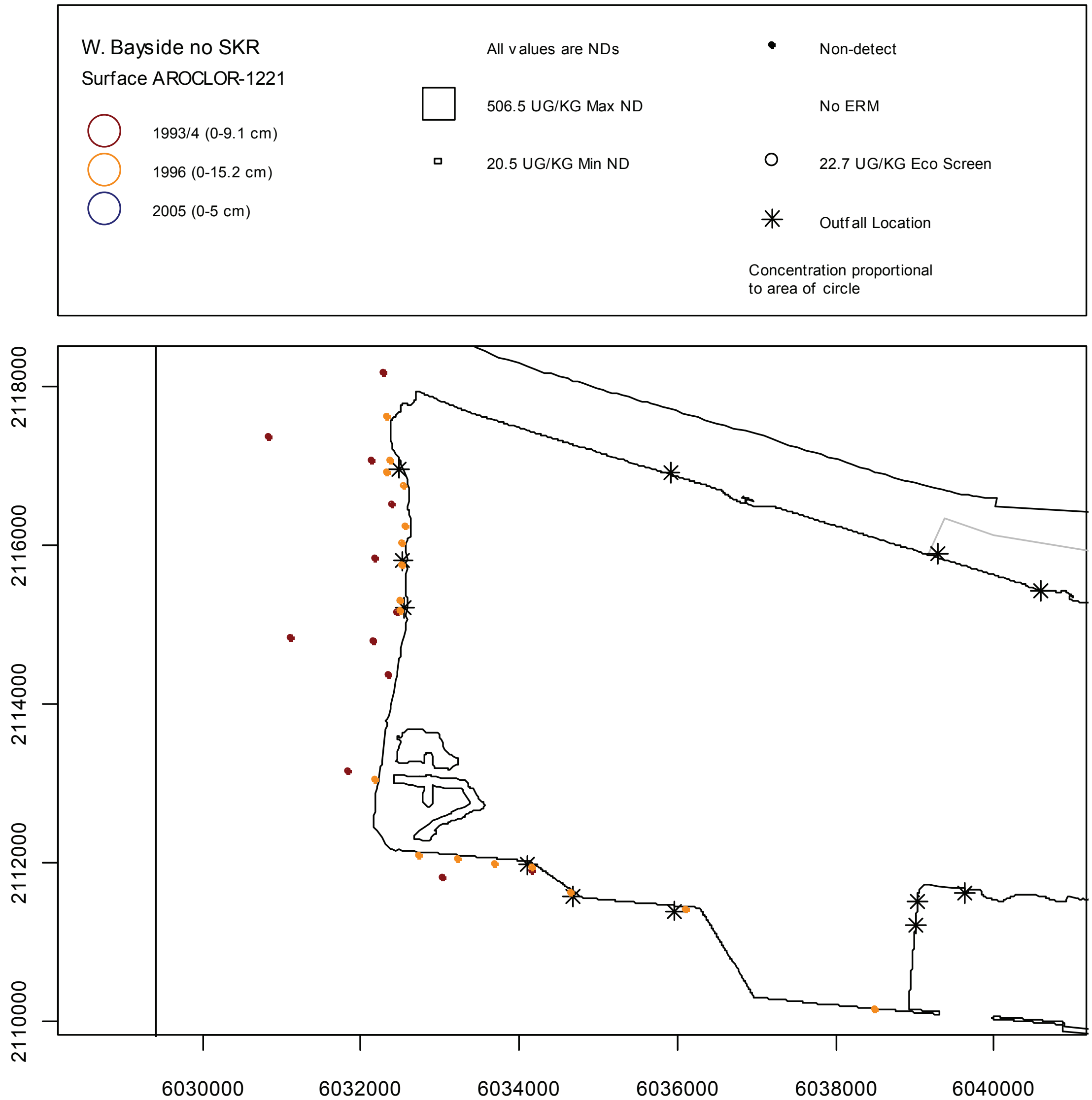


Figure A–141. Bubble Plots of Aroclor-1221 in Western Bayside Surface Sediment by Year.

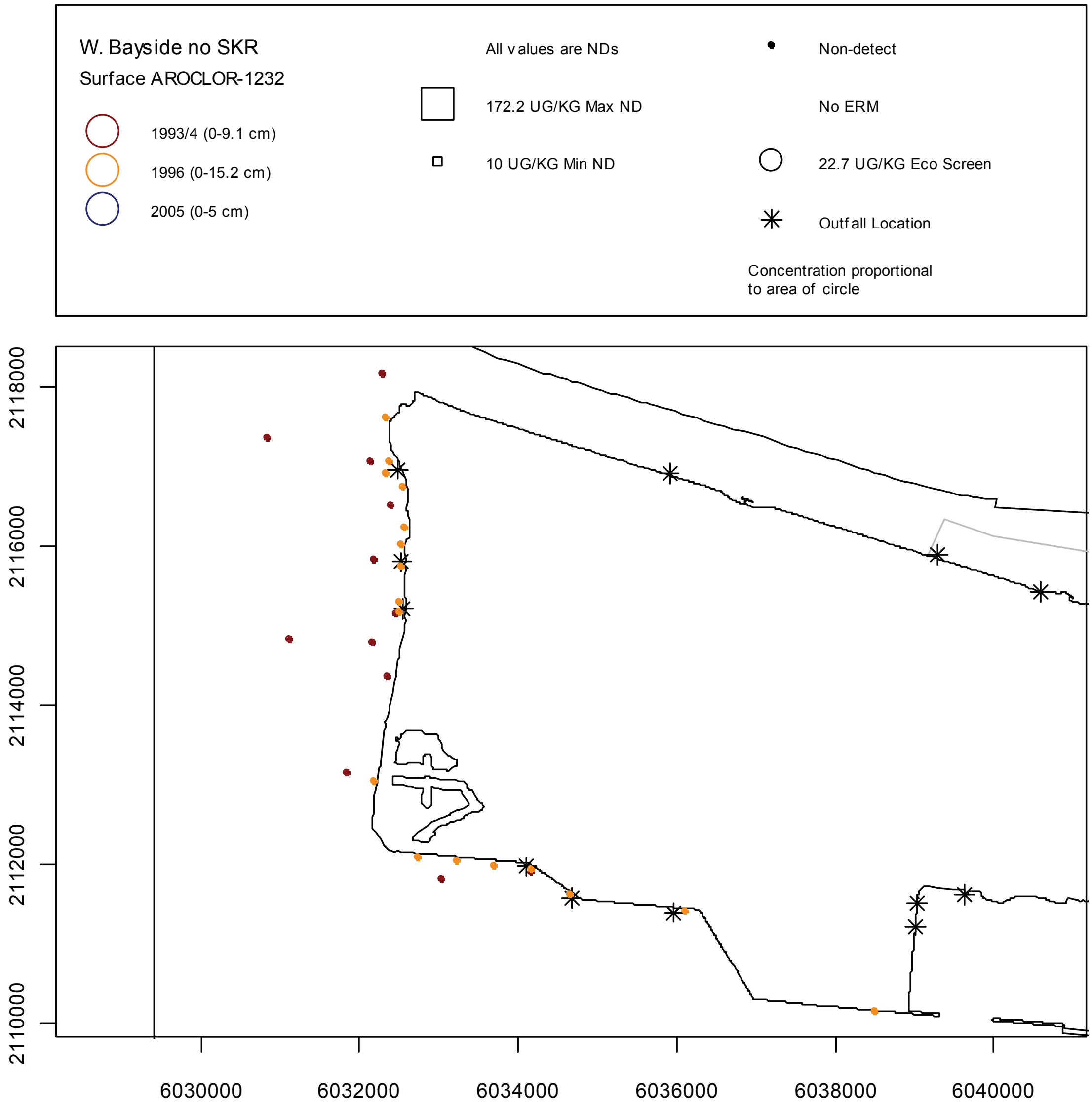


Figure A–142. Bubble Plots of Aroclor-1232 in Western Bayside Surface Sediment by Year.

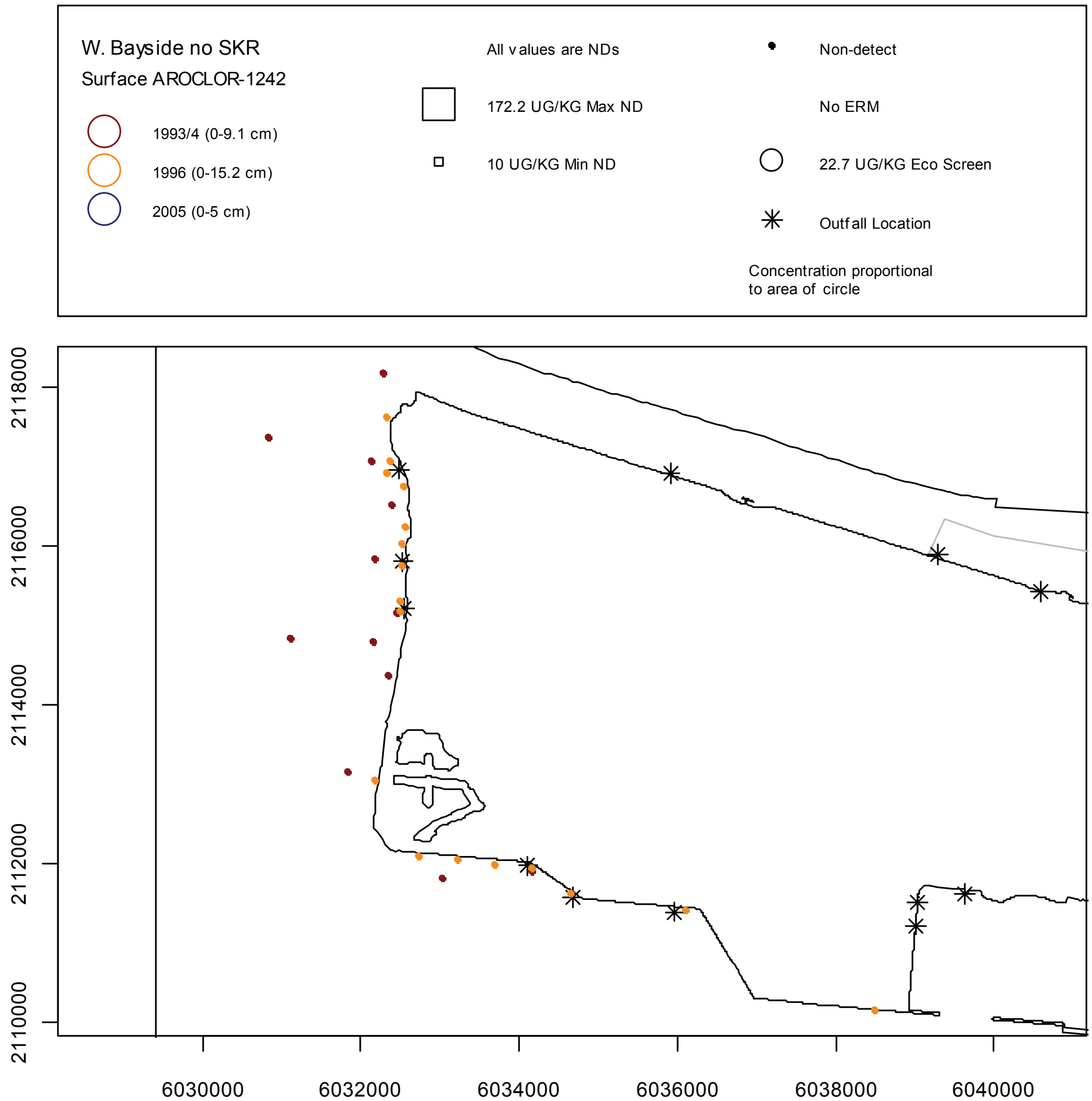


Figure A–143. Bubble Plots of Aroclor-1242 in Western Bayside Surface Sediment by Year.

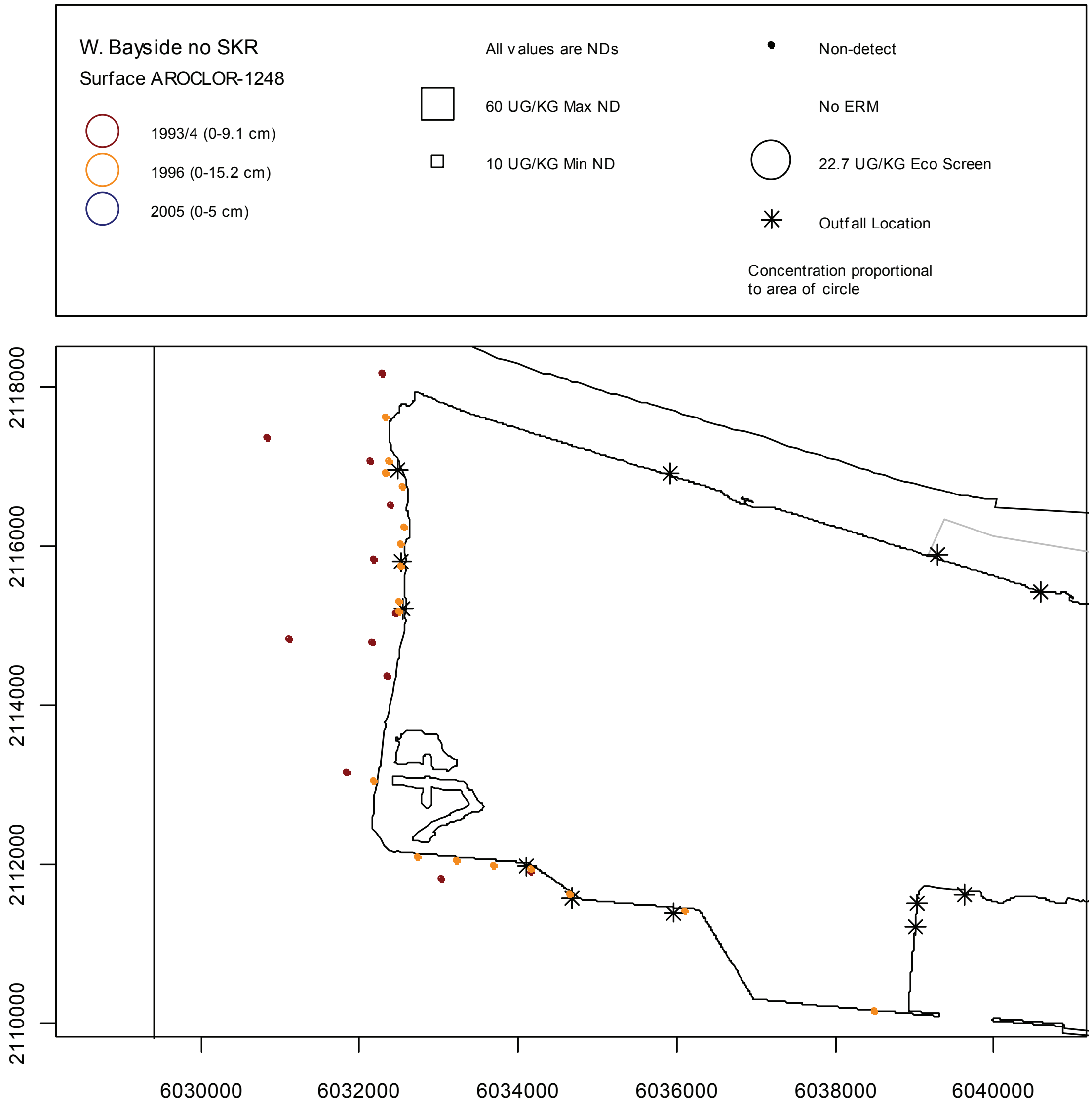


Figure A–144. Bubble Plots of Aroclor-1248 in Western Bayside Surface Sediment by Year.

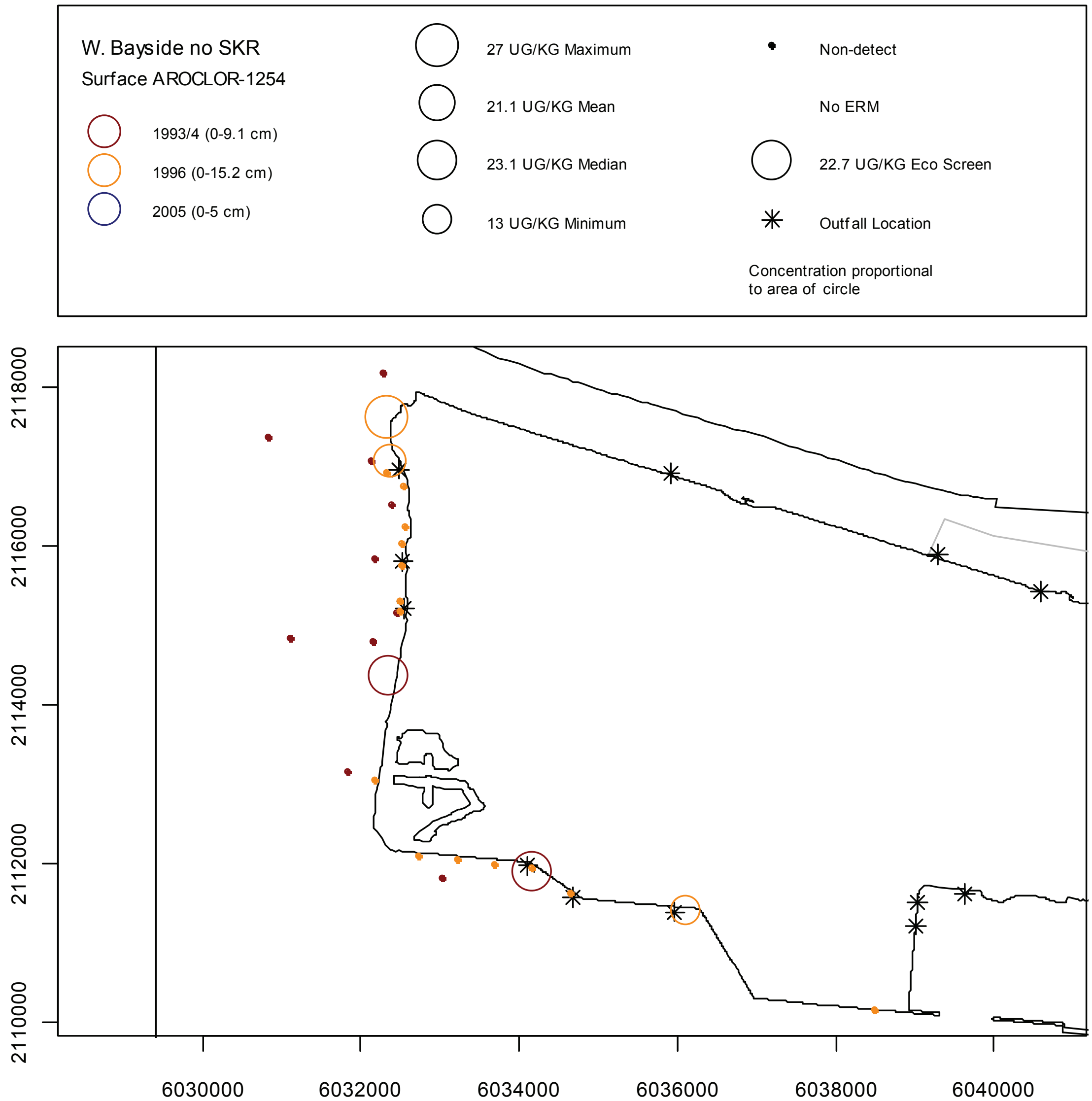


Figure A–145. Bubble Plots of Aroclor-1254 in Western Bayside Surface Sediment by Year.

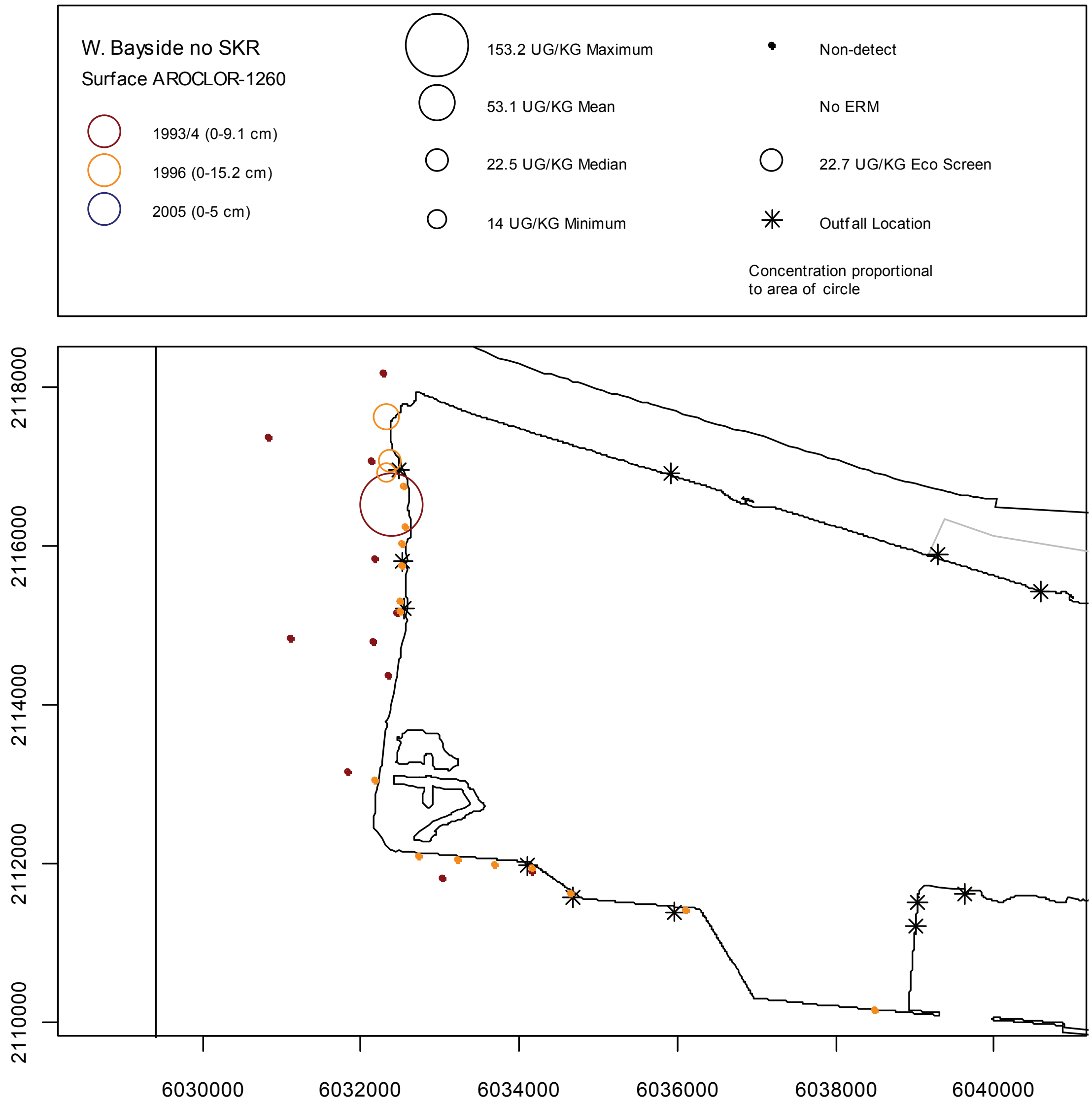


Figure A–146. Bubble Plots of Aroclor-1260 in Western Bayside Surface Sediment by Year.

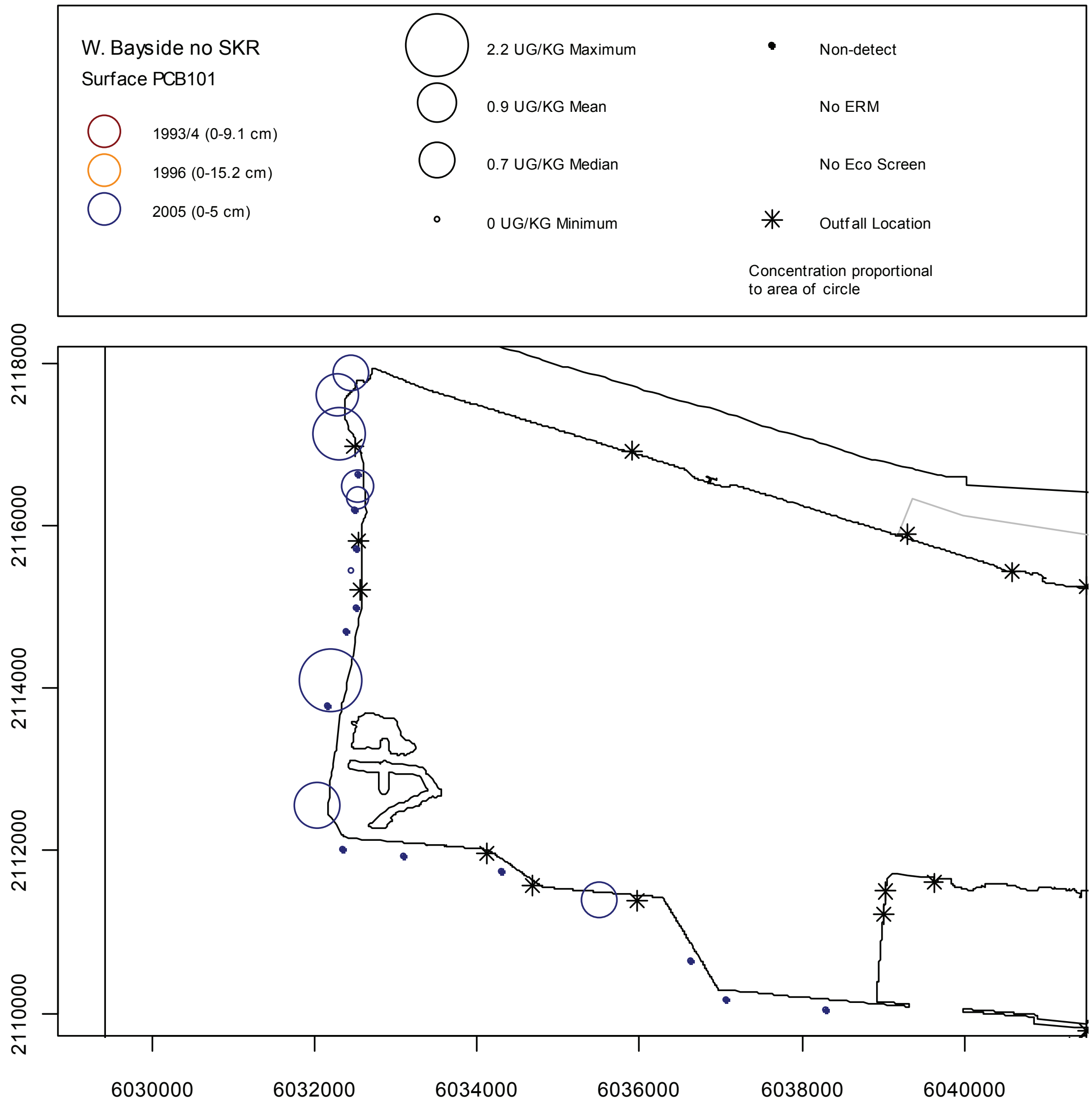


Figure A–147. Bubble Plots of PCB101 in Western Bayside Surface Sediment by Year.

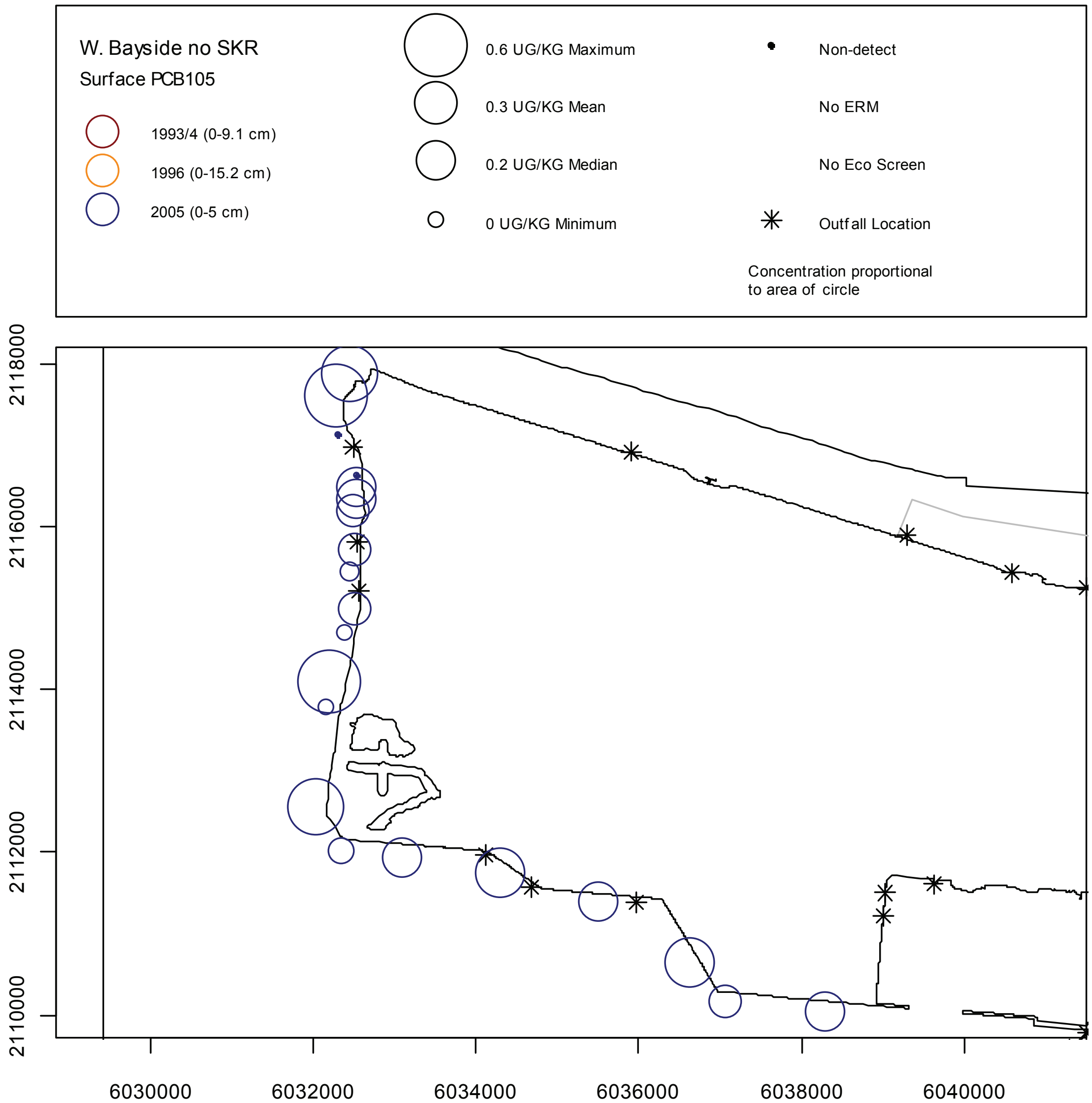


Figure A–148. Bubble Plots of PCB105 in Western Bayside Surface Sediment by Year.

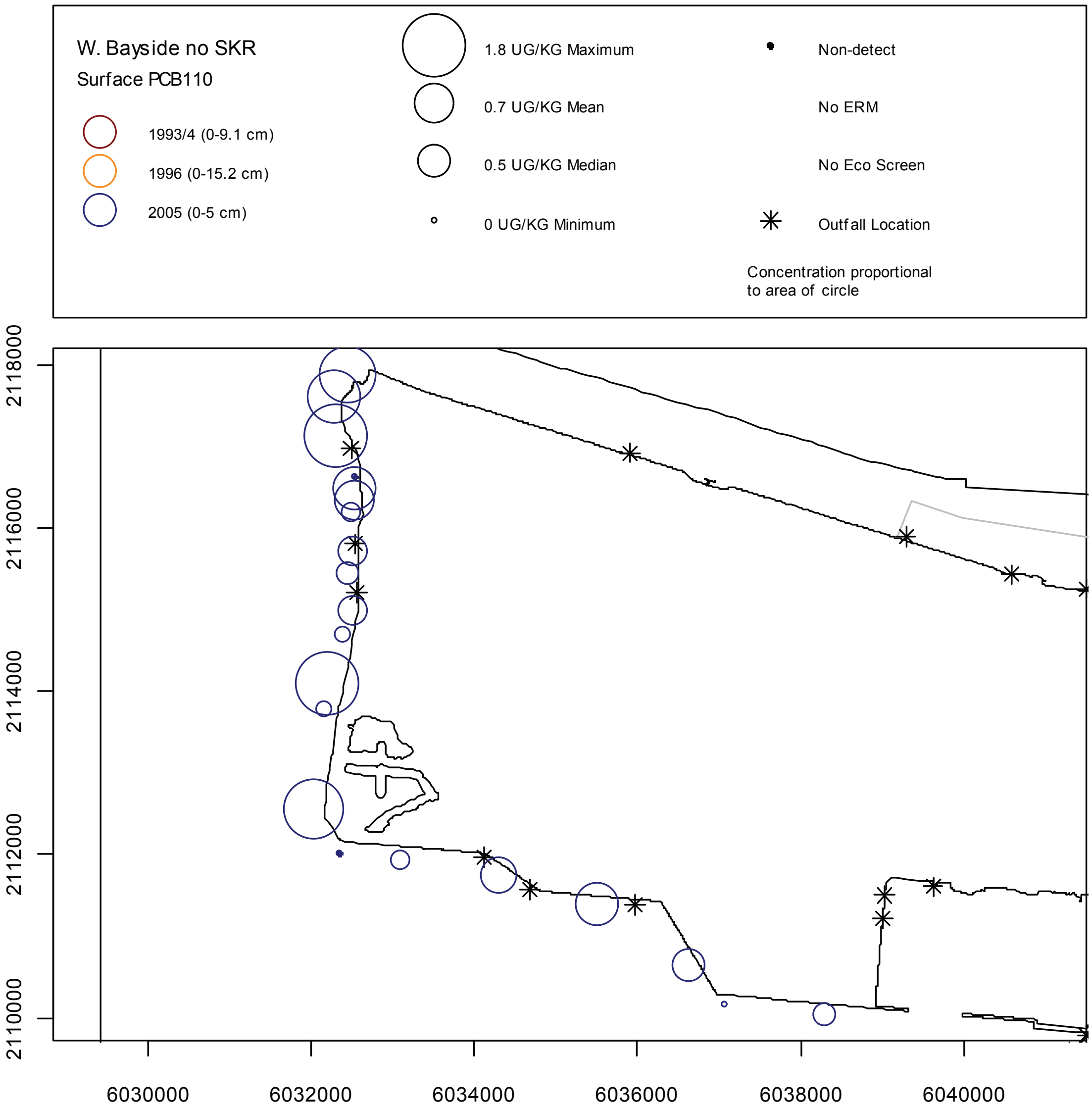


Figure A–149. Bubble Plots of PCB110 in Western Bayside Surface Sediment by Year.

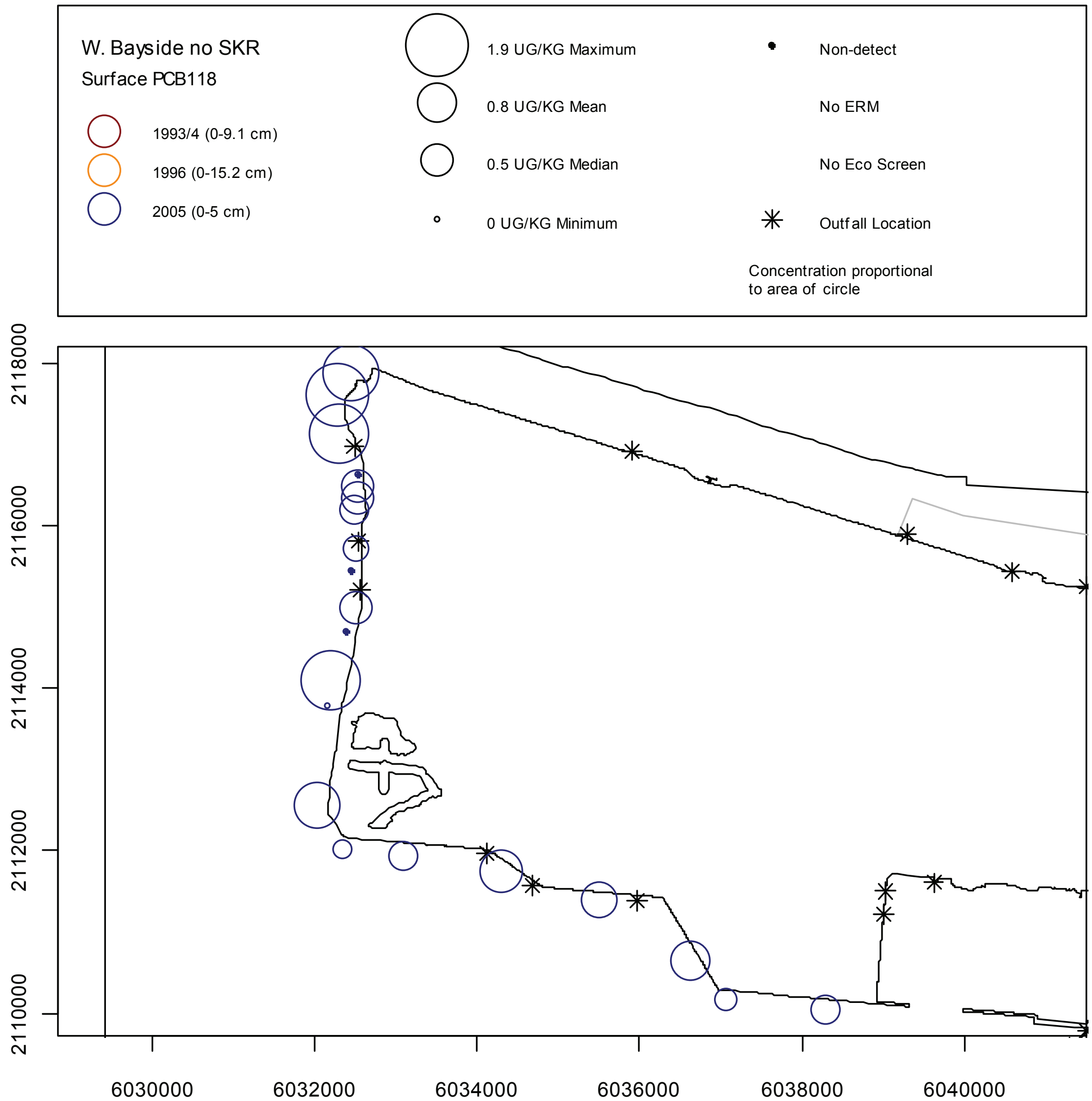


Figure A–150. Bubble Plots of PCB118 in Western Bayside Surface Sediment by Year.

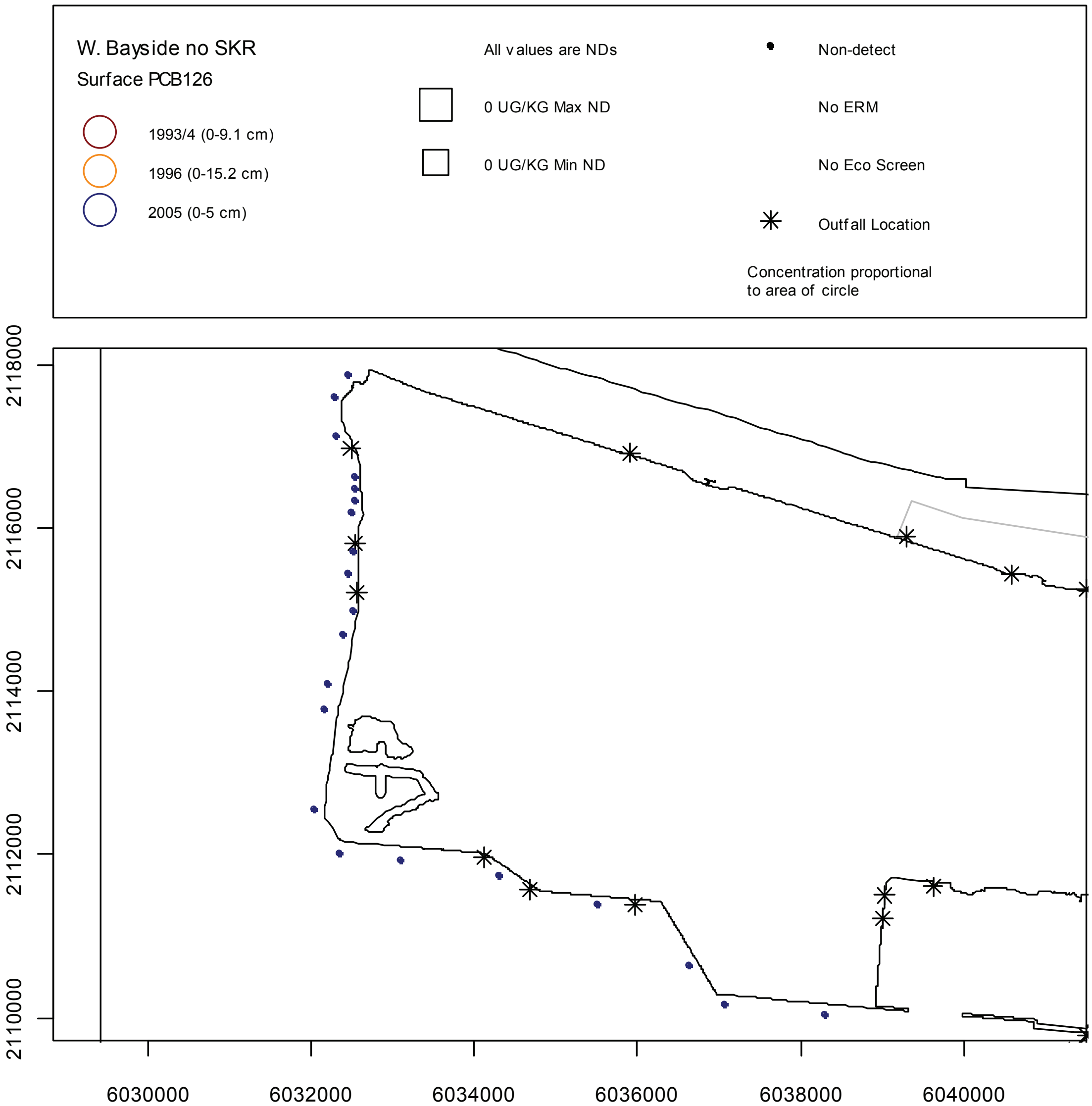


Figure A–151. Bubble Plots of PCB126 in Western Bayside Surface Sediment by Year.

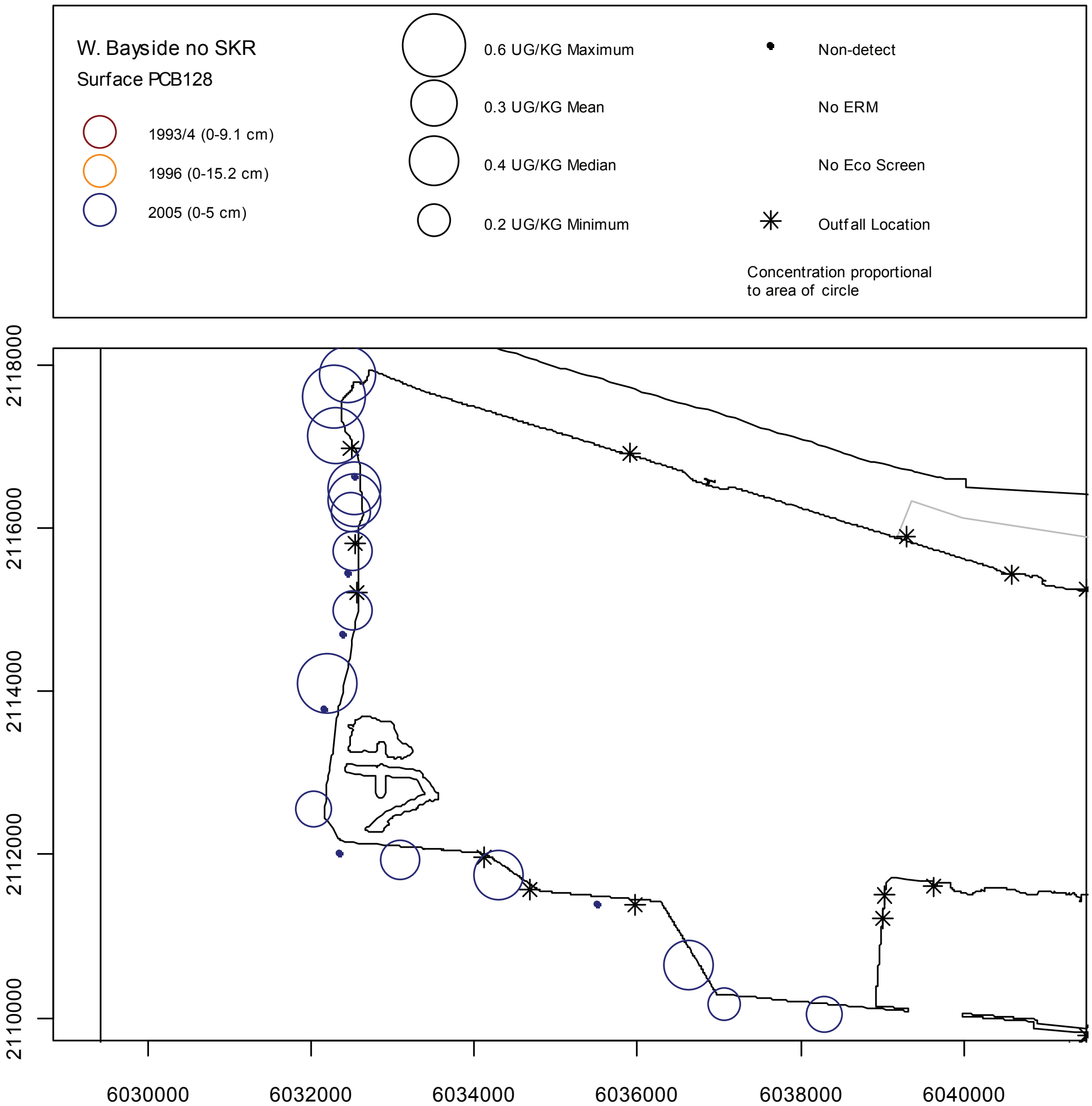


Figure A–152. Bubble Plots of PCB128 in Western Bayside Surface Sediment by Year.

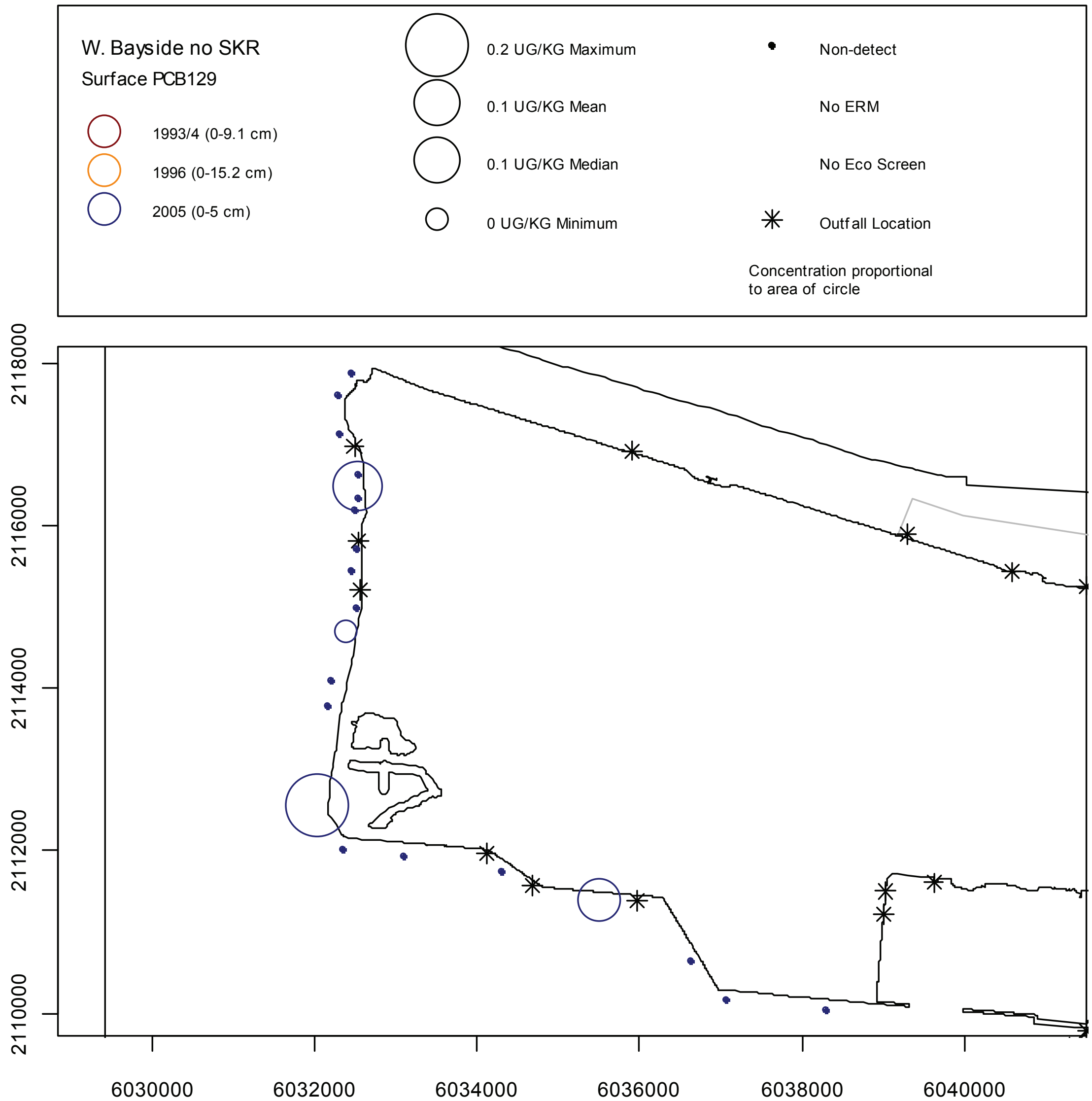


Figure A–153. Bubble Plots of PCB129 in Western Bayside Surface Sediment by Year.

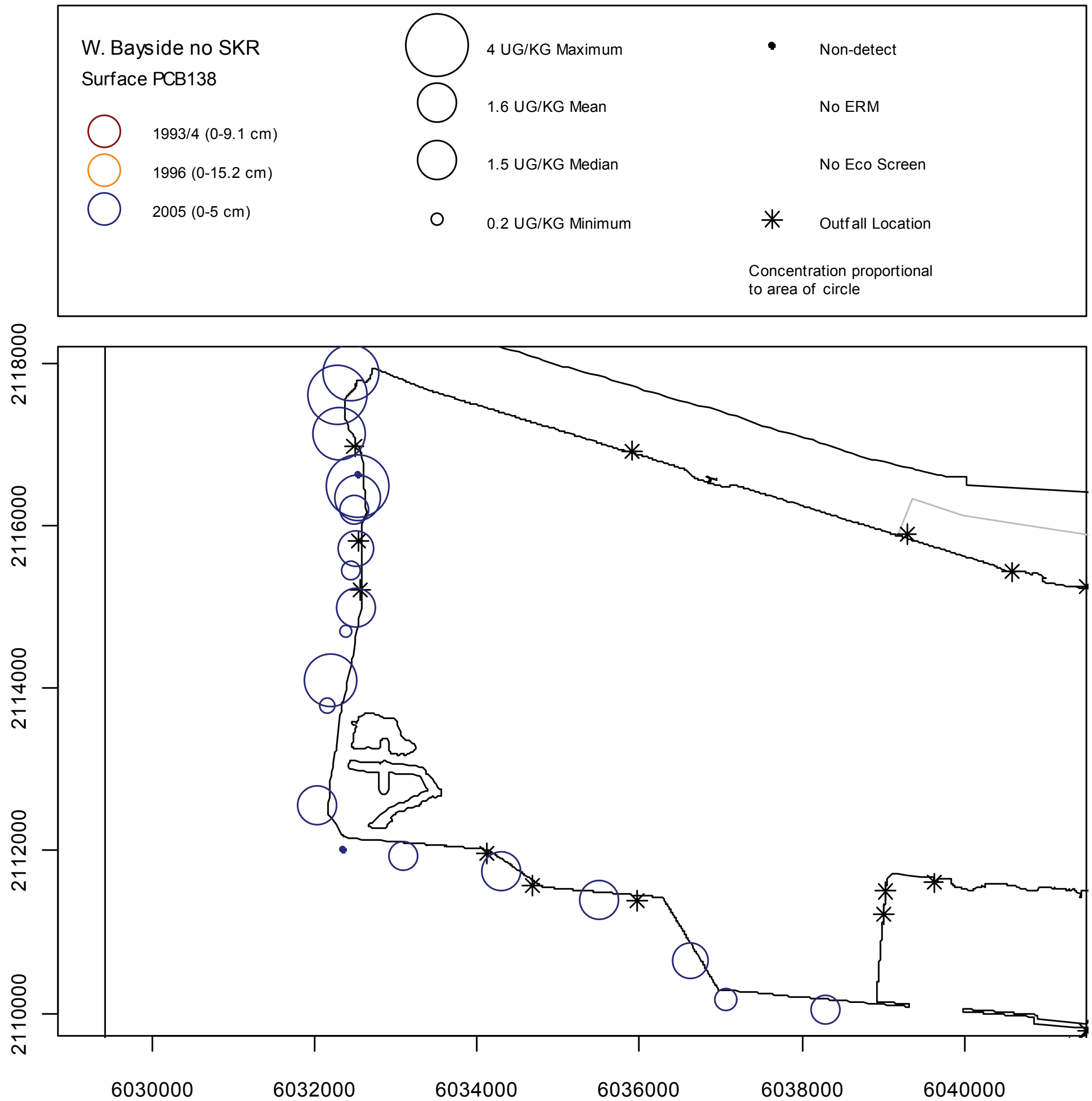


Figure A–154. Bubble Plots of PCB138 in Western Bayside Surface Sediment by Year.

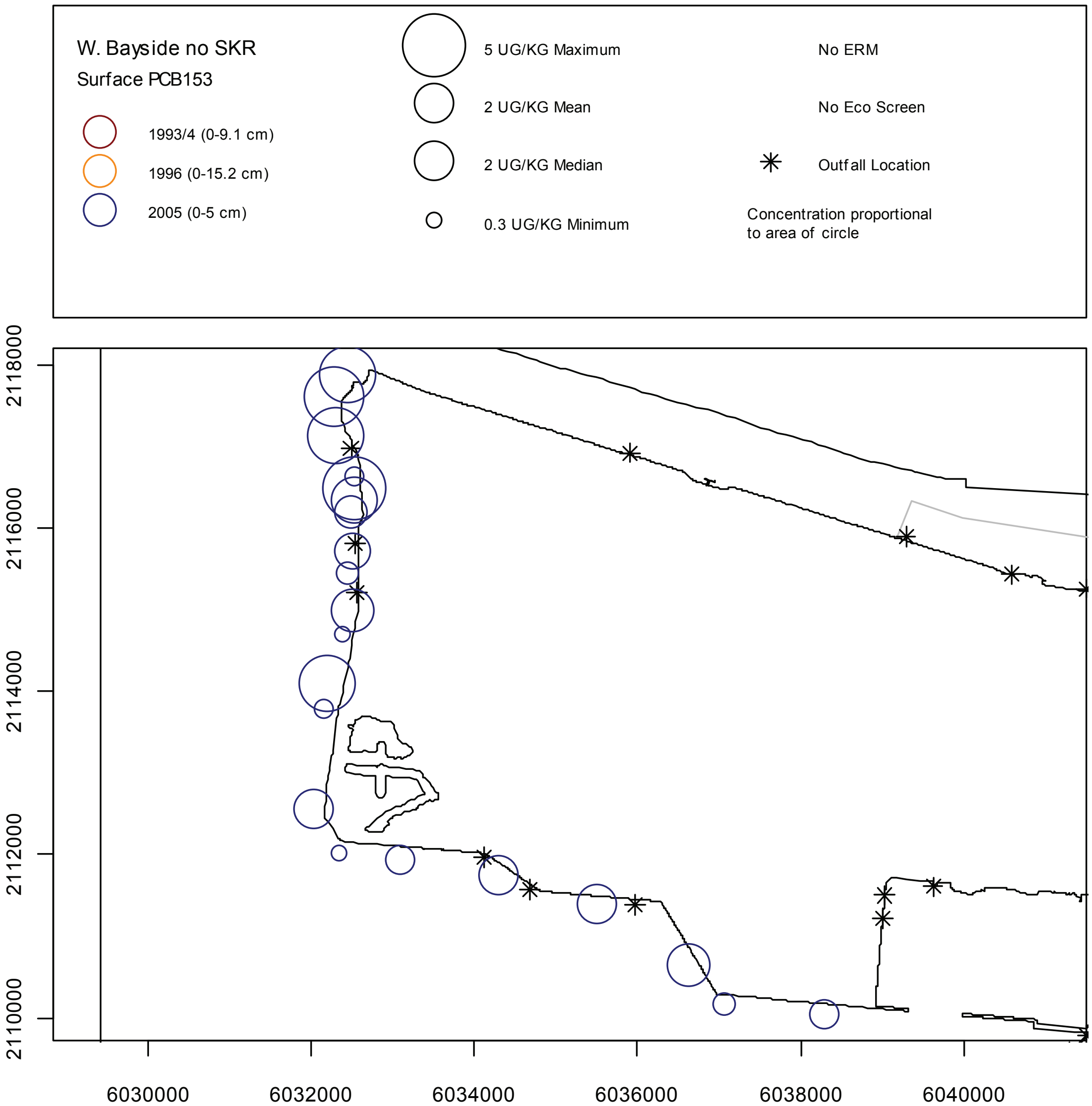


Figure A–155. Bubble Plots of PCB153 in Western Bayside Surface Sediment by Year.

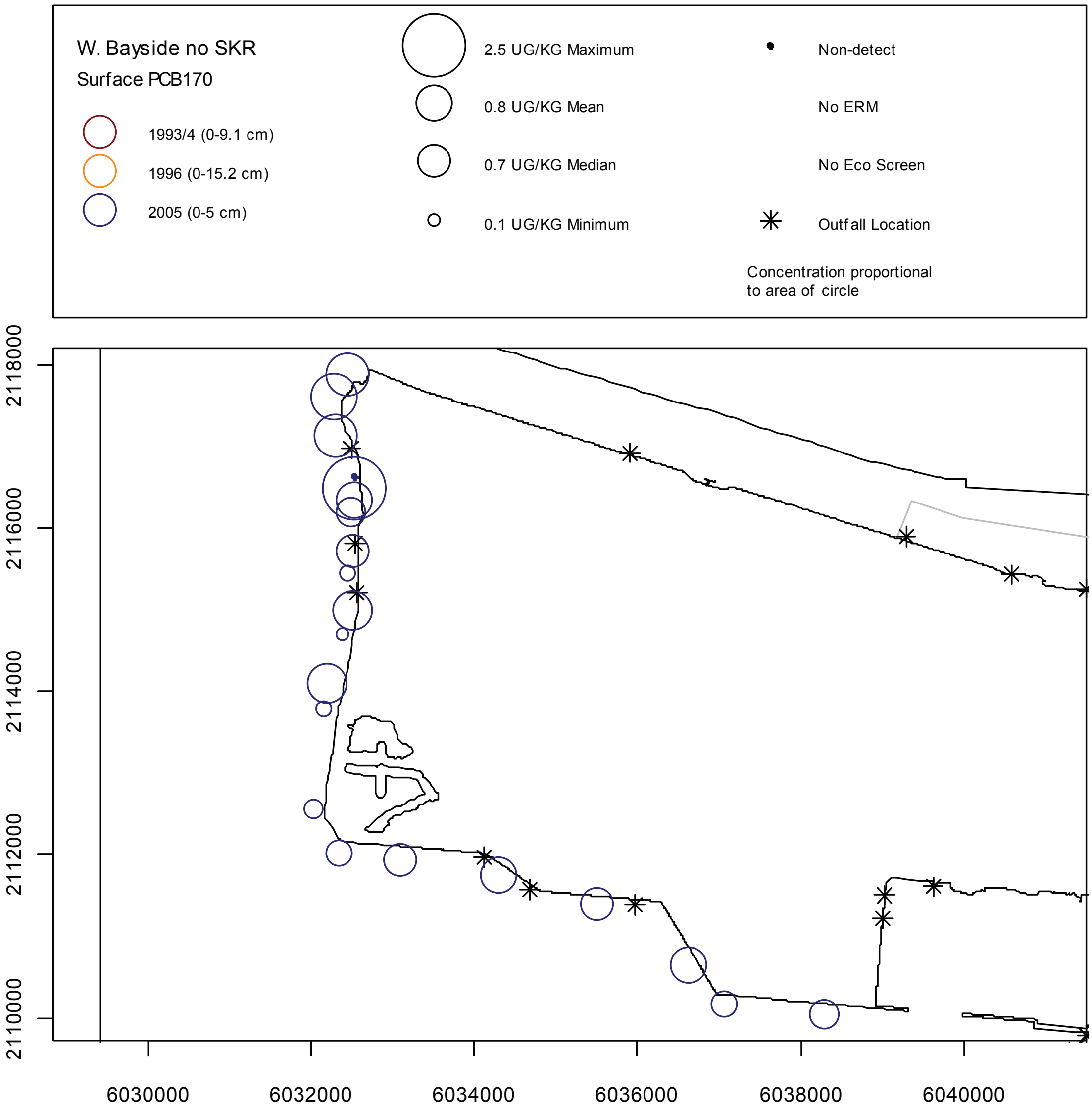


Figure A–156. Bubble Plots of PCB170 in Western Bayside Surface Sediment by Year.

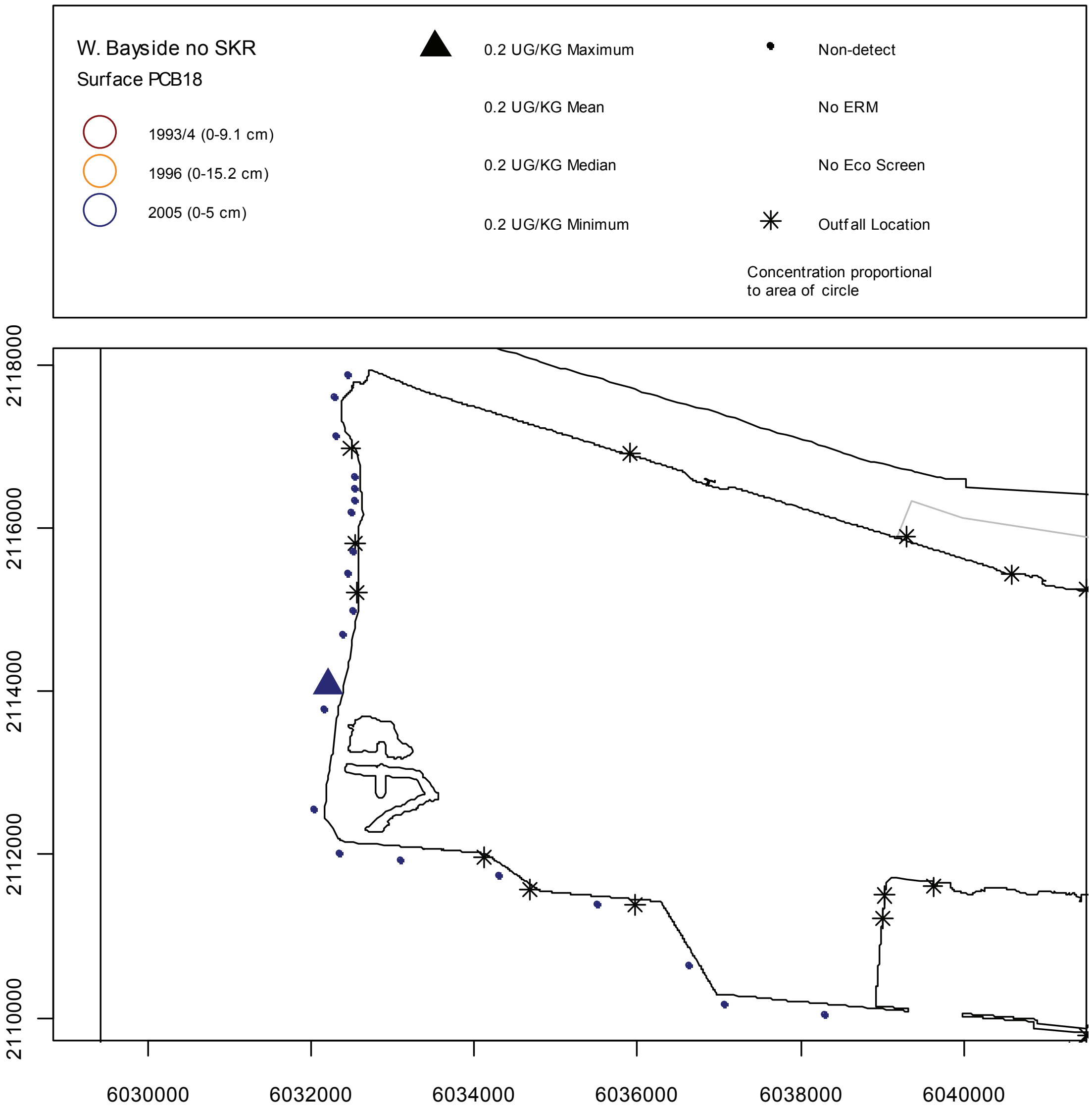


Figure A–157. Bubble Plots of PCB18 in Western Bayside Surface Sediment by Year.

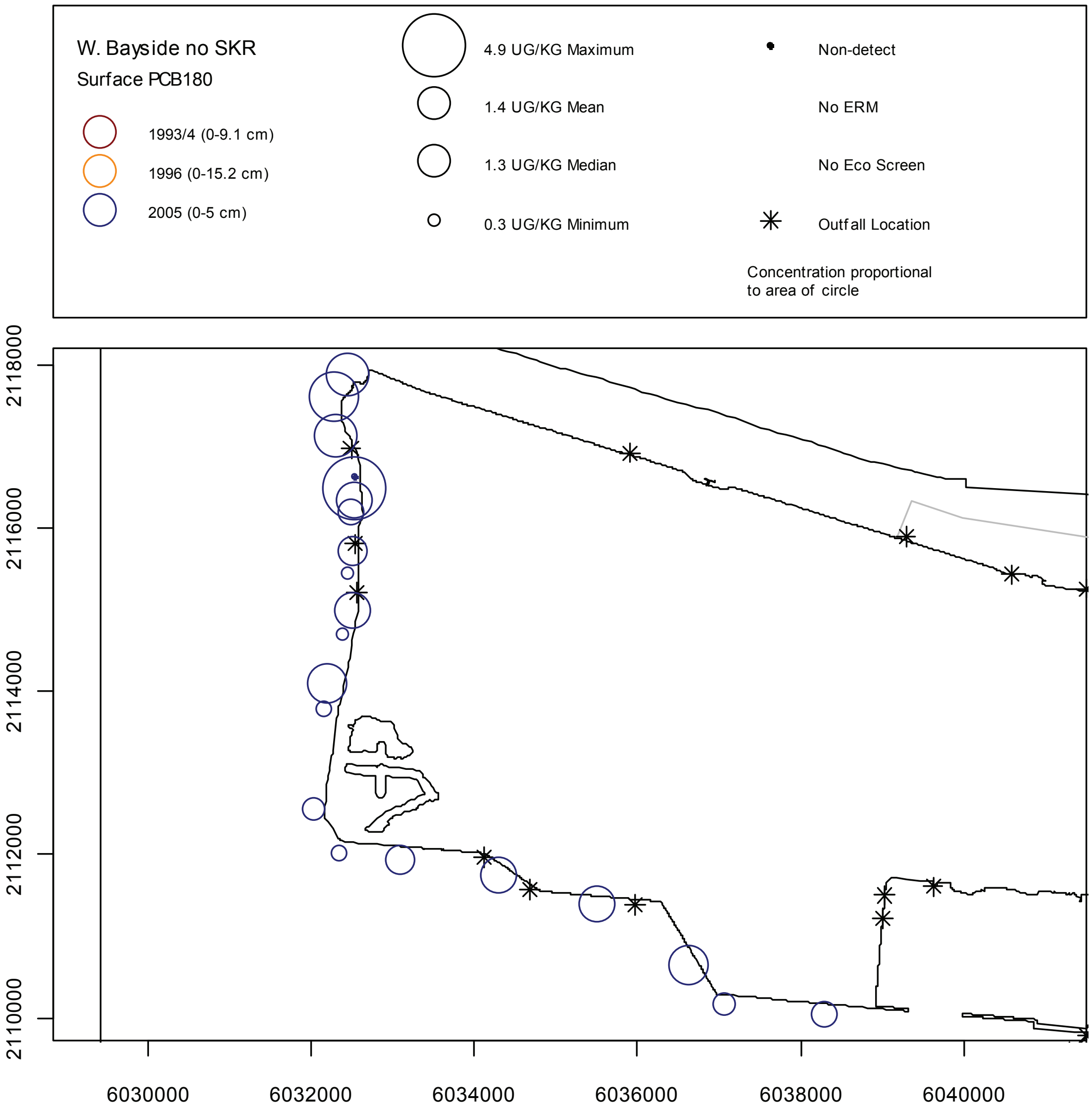


Figure A–158. Bubble Plots of PCB180 in Western Bayside Surface Sediment by Year.

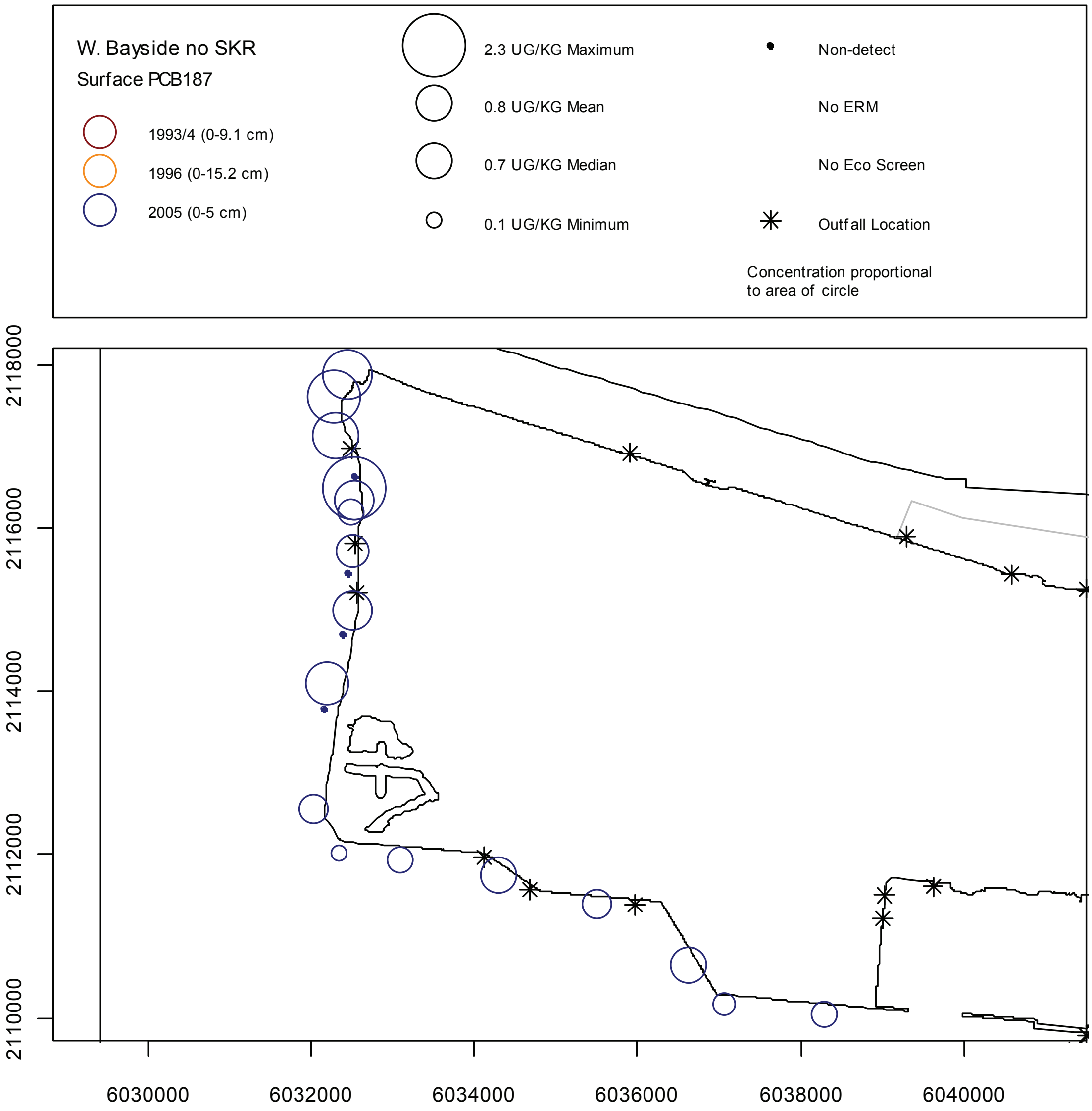


Figure A–159. Bubble Plots of PCB187 in Western Bayside Surface Sediment by Year.

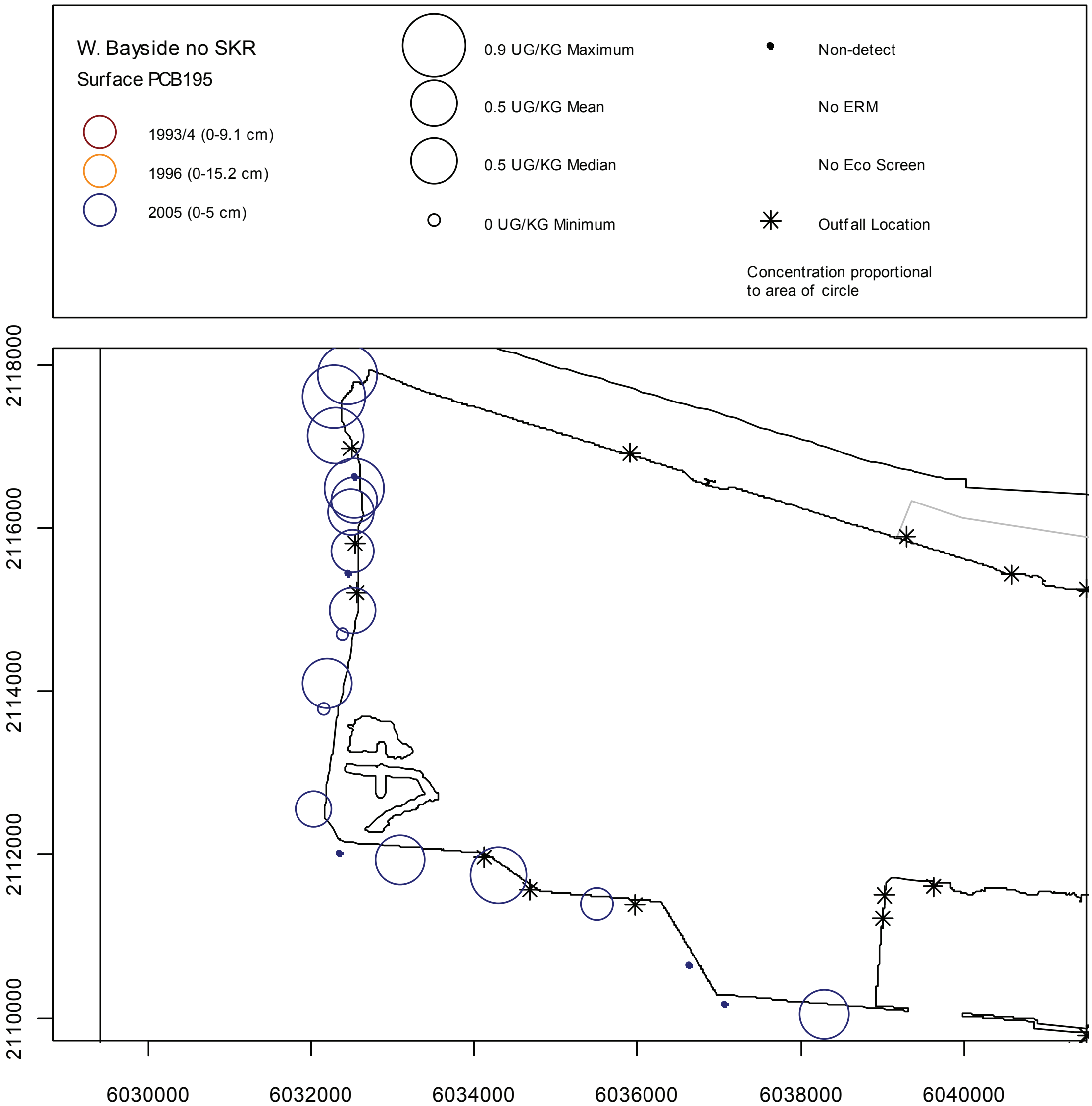


Figure A–160. Bubble Plots of PCB195 in Western Bayside Surface Sediment by Year.

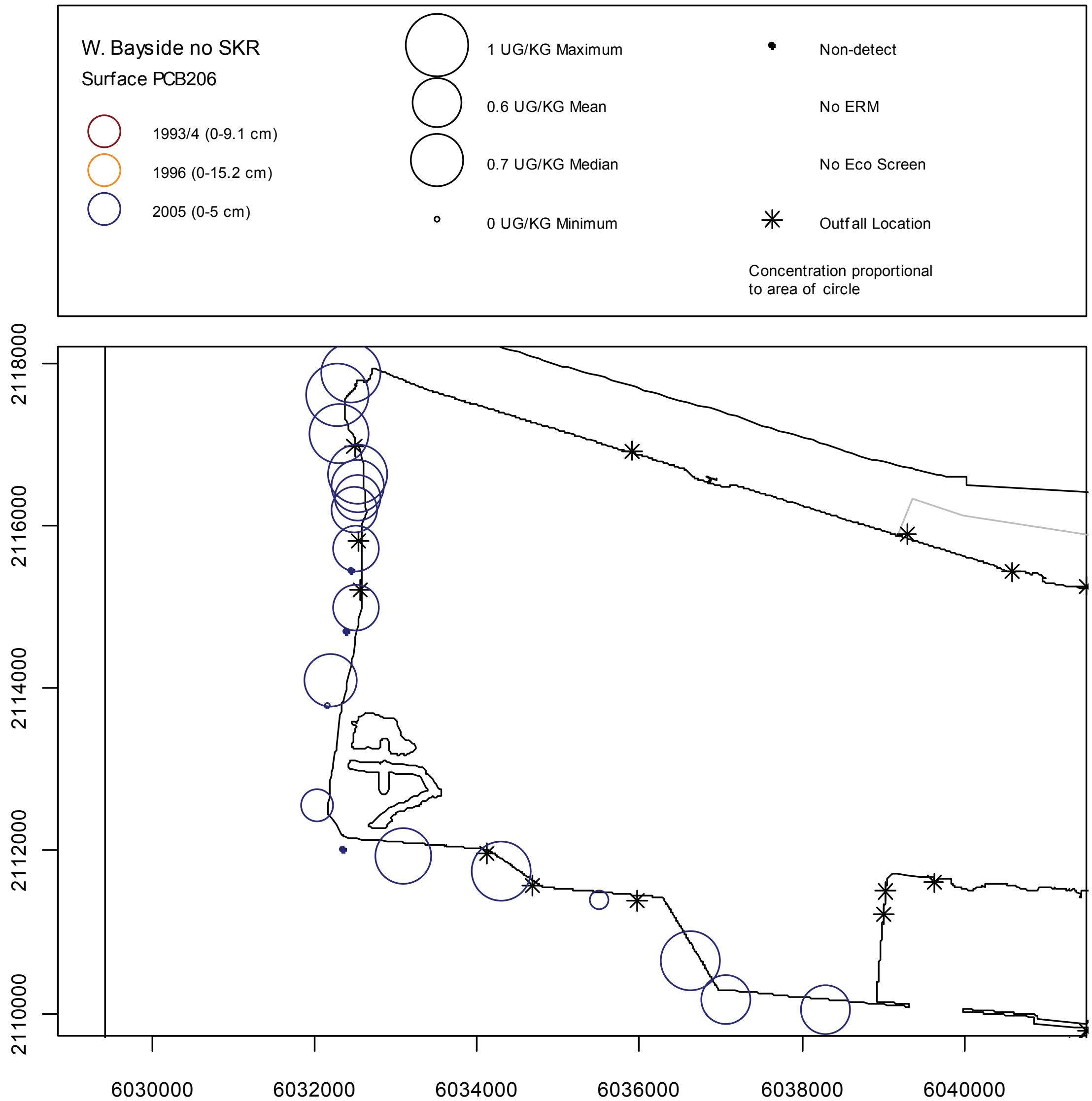


Figure A–161. Bubble Plots of PCB206 in Western Bayside Surface Sediment by Year.

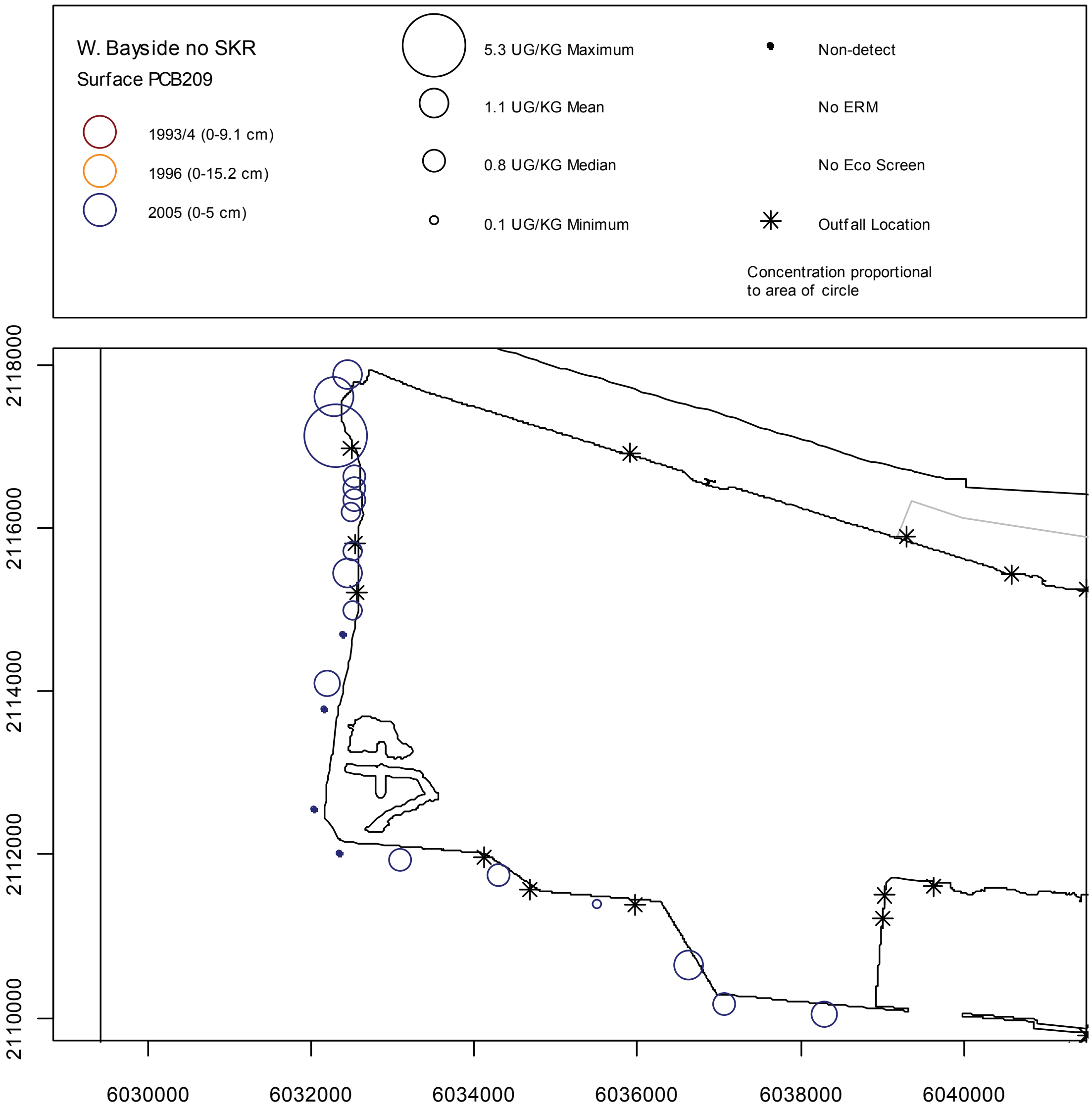


Figure A–162. Bubble Plots of PCB209 in Western Bayside Surface Sediment by Year.

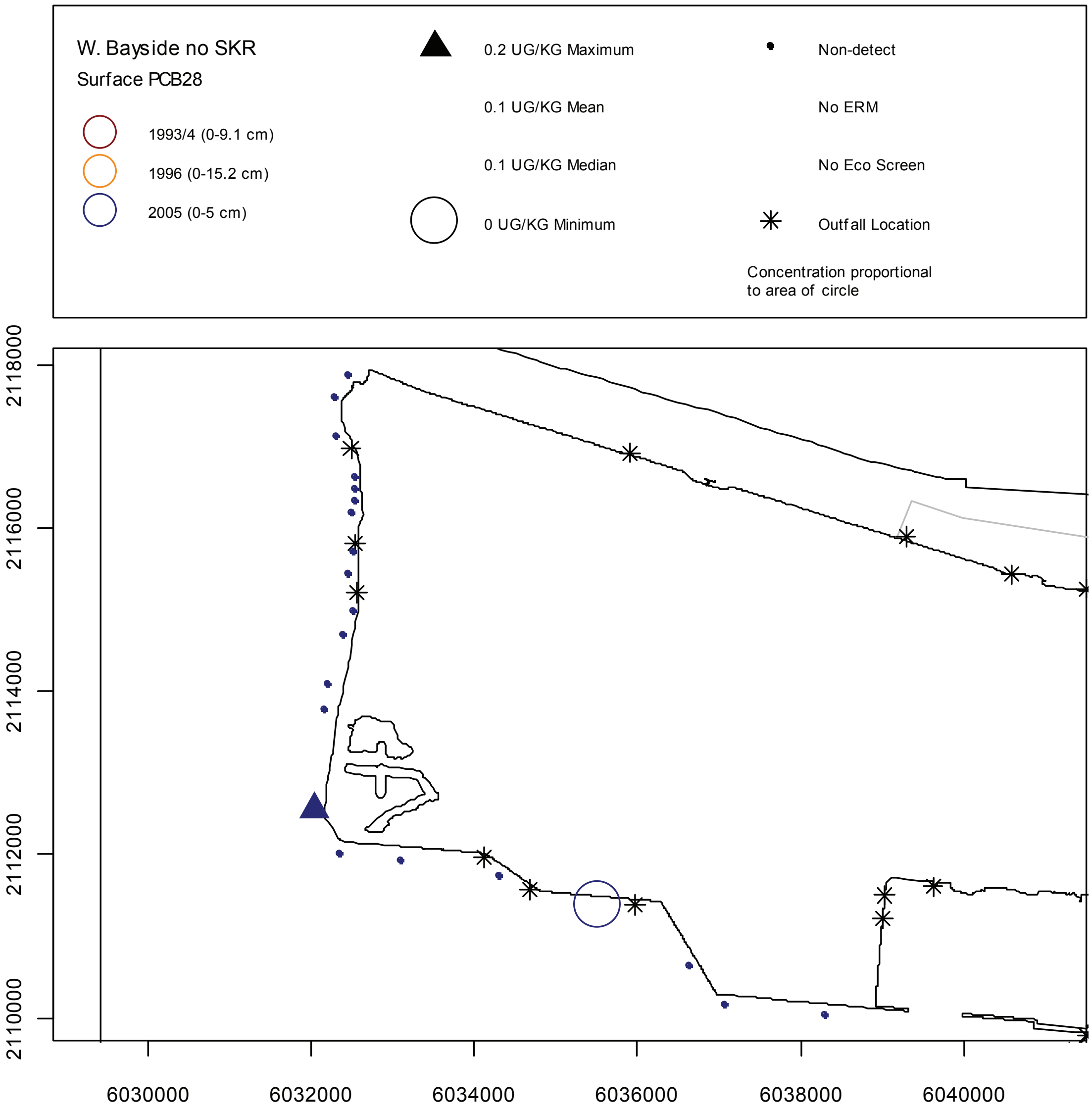


Figure A–163. Bubble Plots of PCB28 in Western Bayside Surface Sediment by Year.

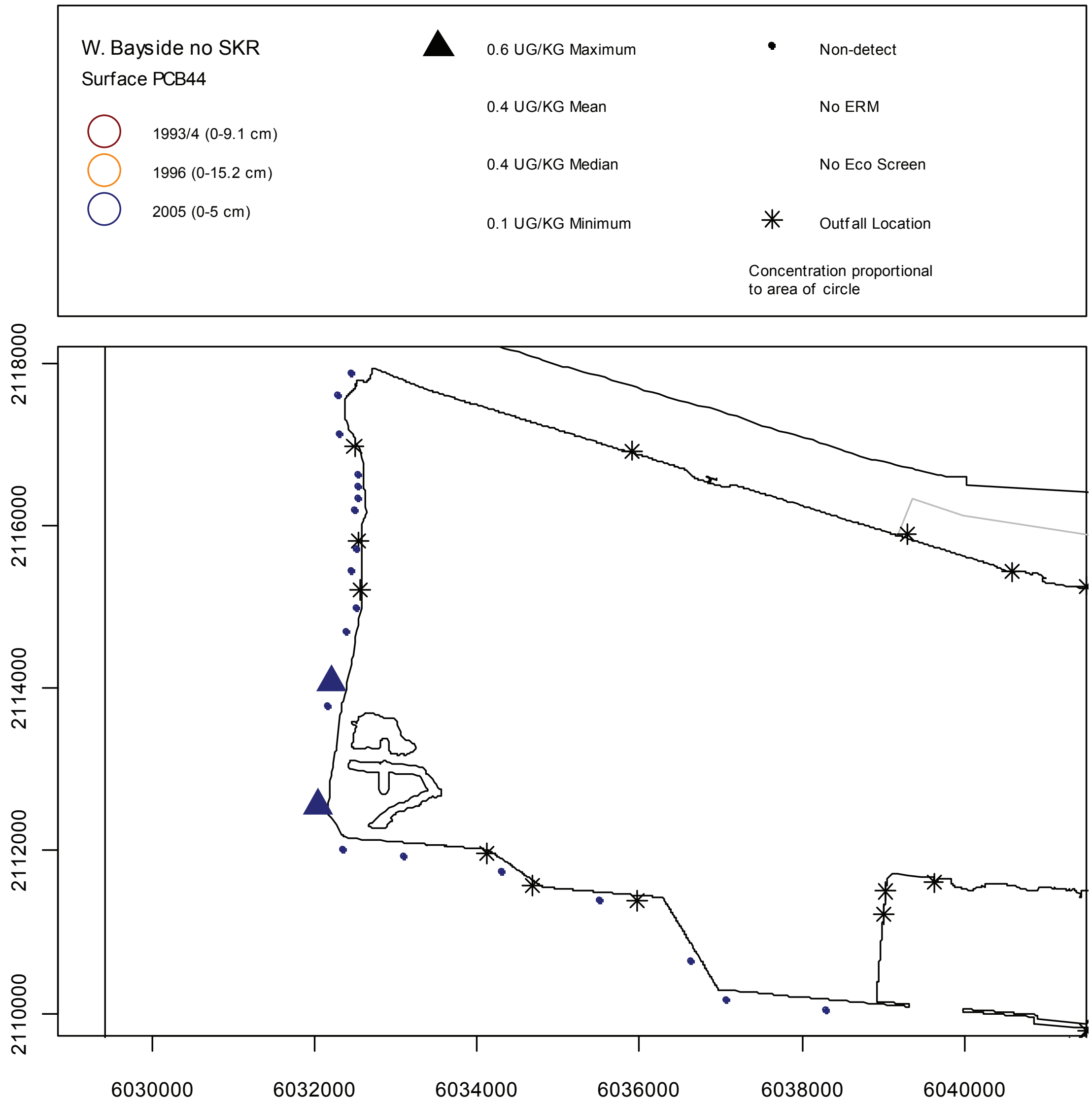


Figure A–164. Bubble Plots of PCB44 in Western Bayside Surface Sediment by Year.

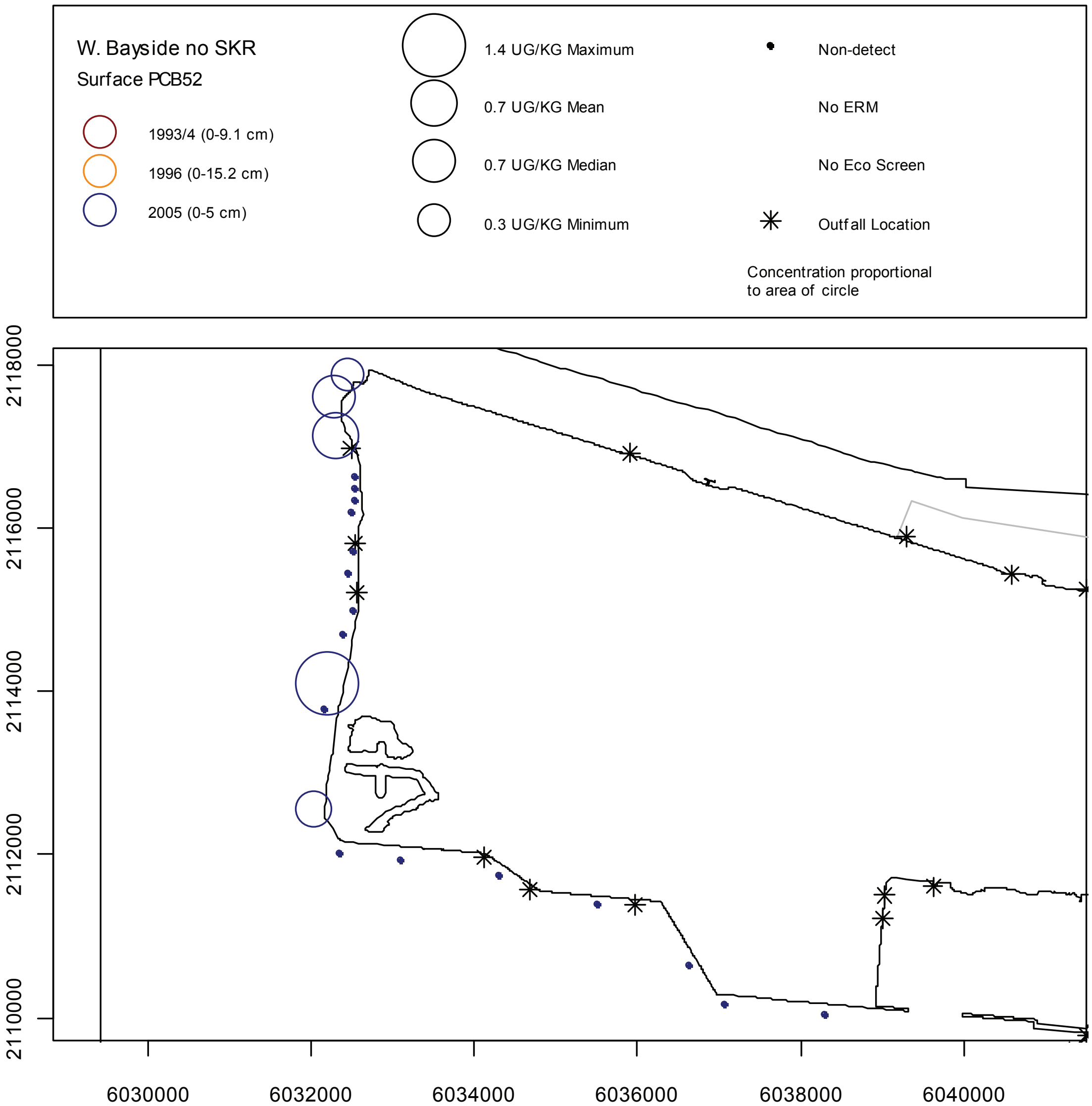


Figure A–165. Bubble Plots of PCB52 in Western Bayside Surface Sediment by Year.

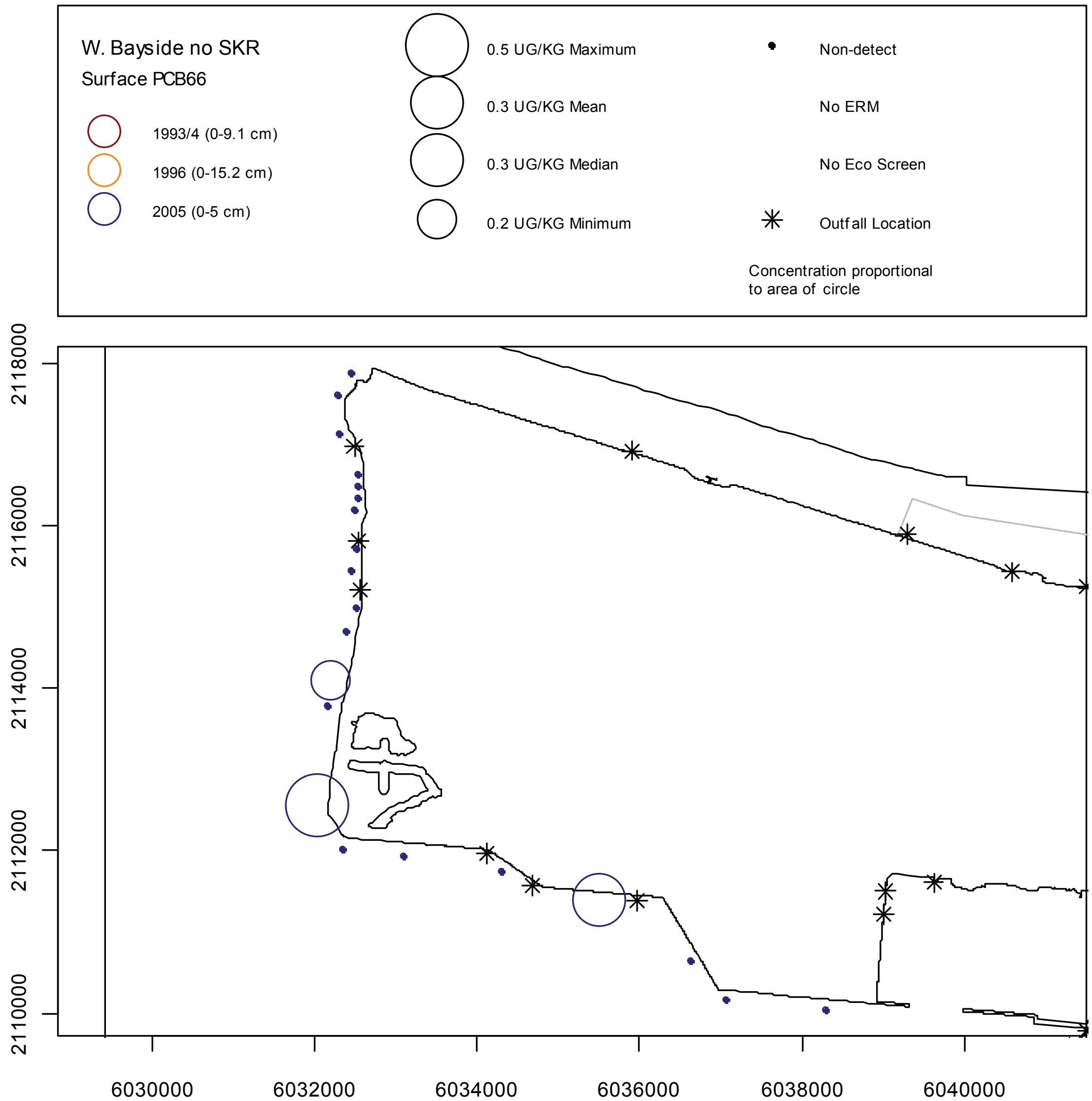


Figure A–166. Bubble Plots of PCB66 in Western Bayside Surface Sediment by Year.

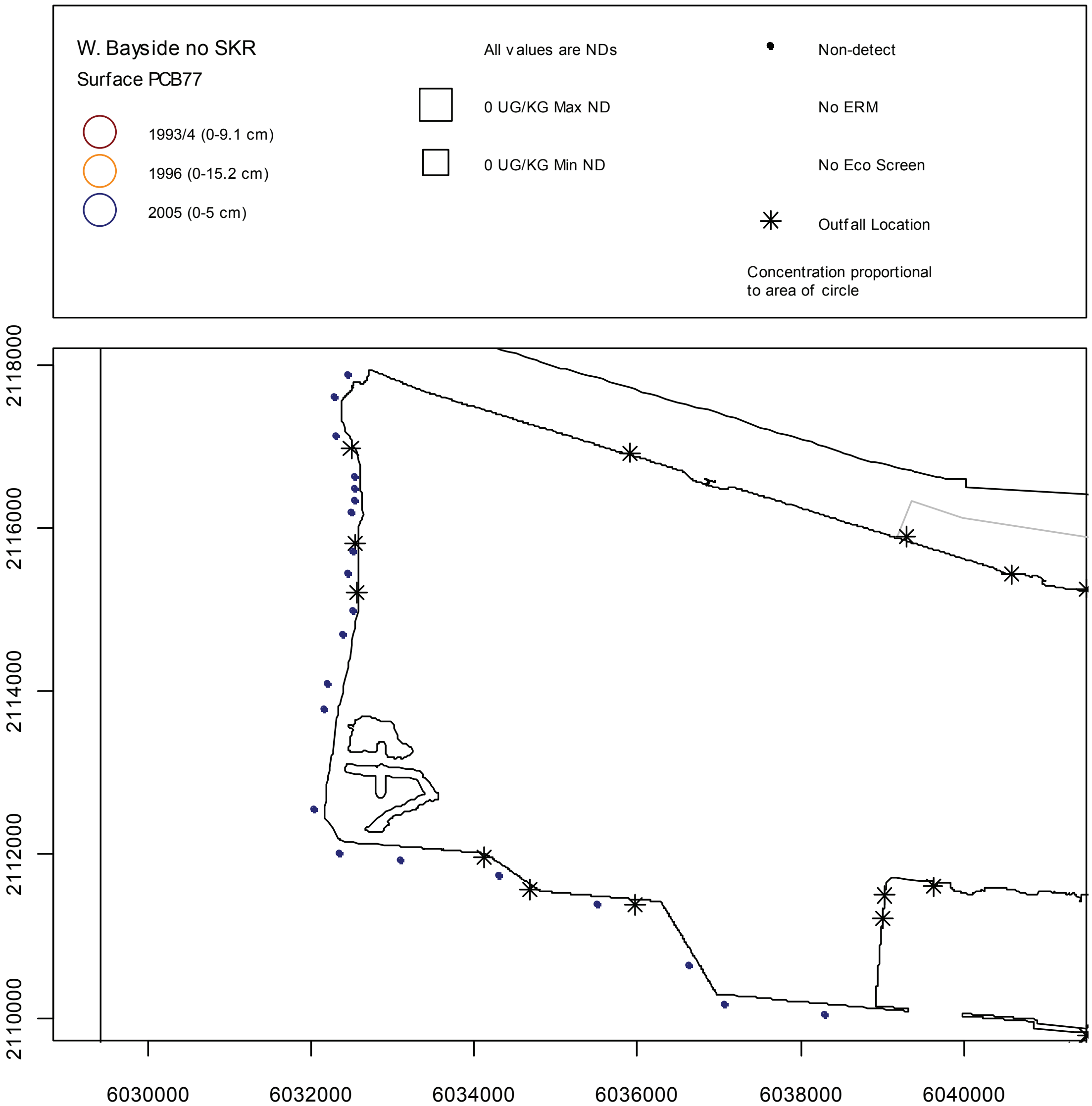


Figure A–167. Bubble Plots of PCB77 in Western Bayside Surface Sediment by Year.

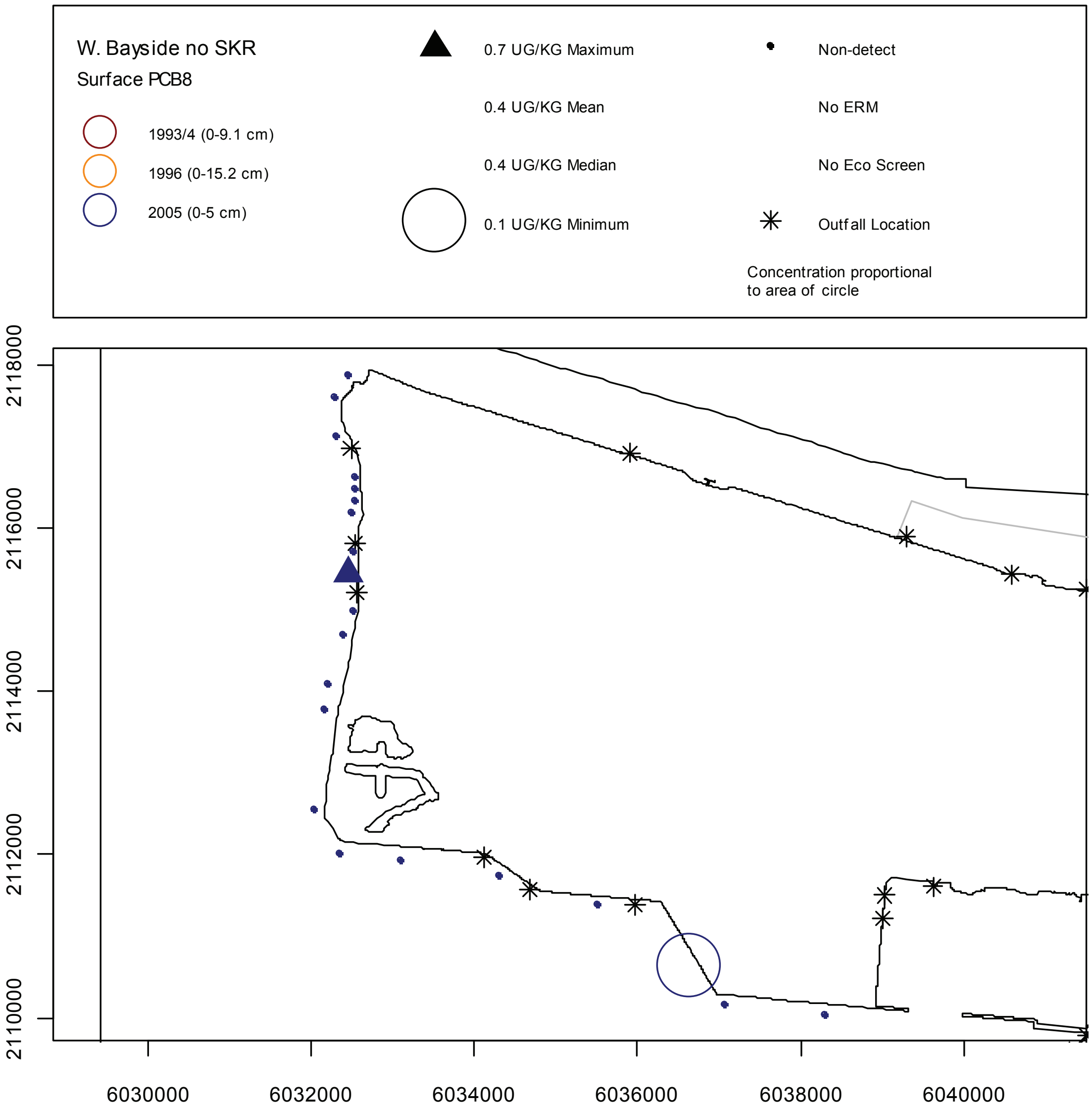


Figure A–168. Bubble Plots of PCB8 in Western Bayside Surface Sediment by Year.

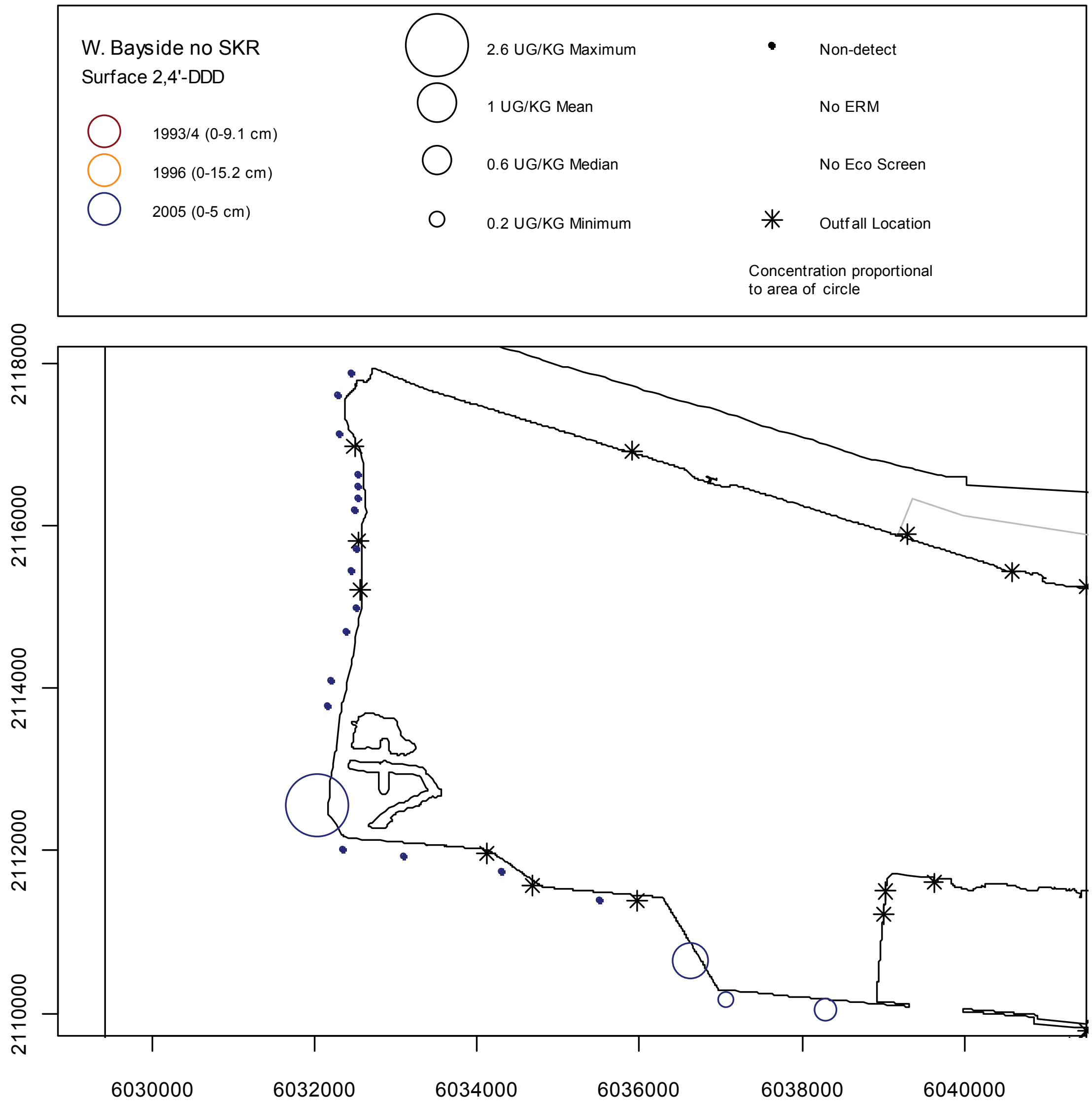


Figure A–169. Bubble Plots of 2,4'-DDD in Western Bayside Surface Sediment by Year.

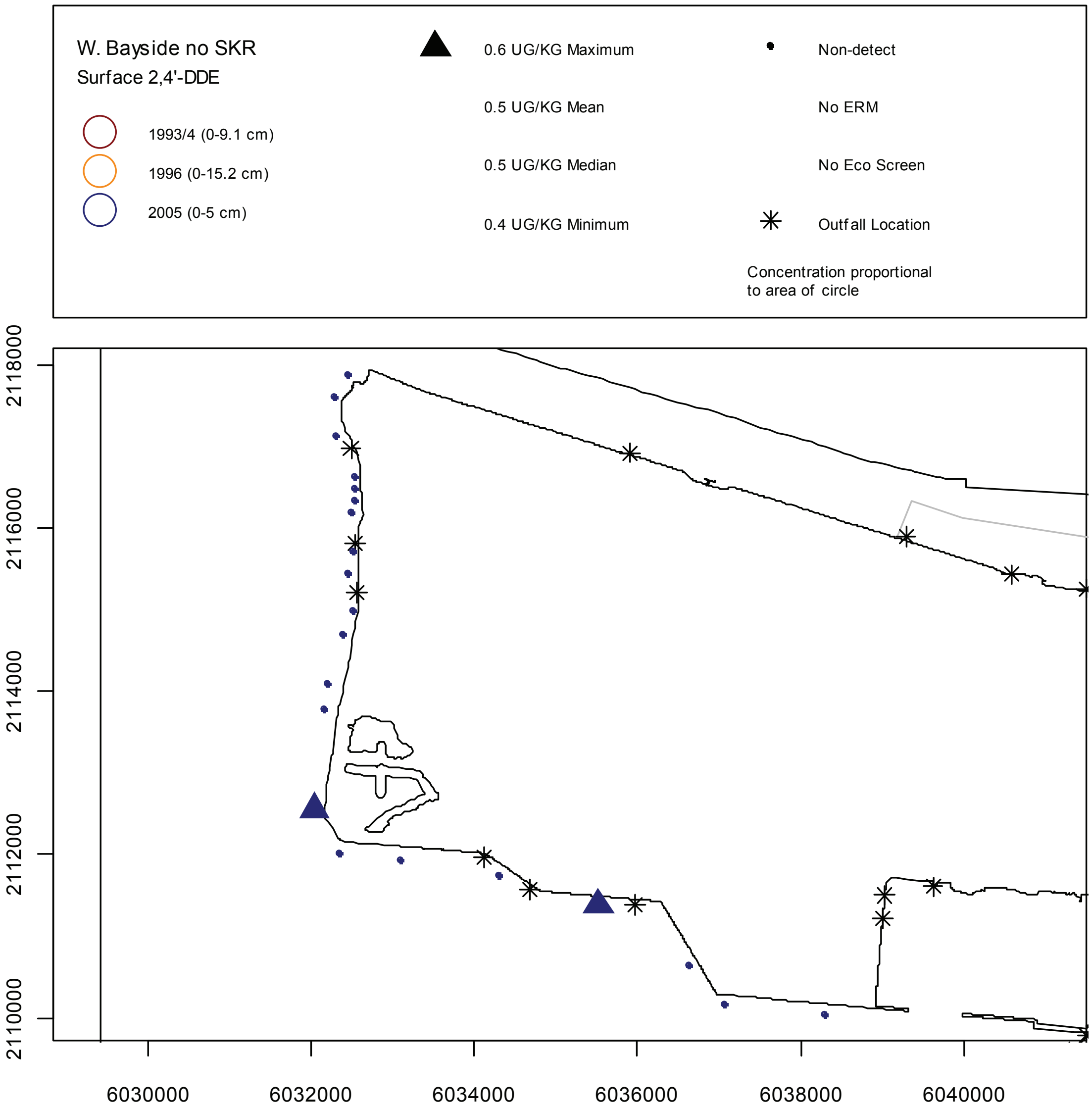


Figure A–170. Bubble Plots of 2,4'-DDE in Western Bayside Surface Sediment by Year.

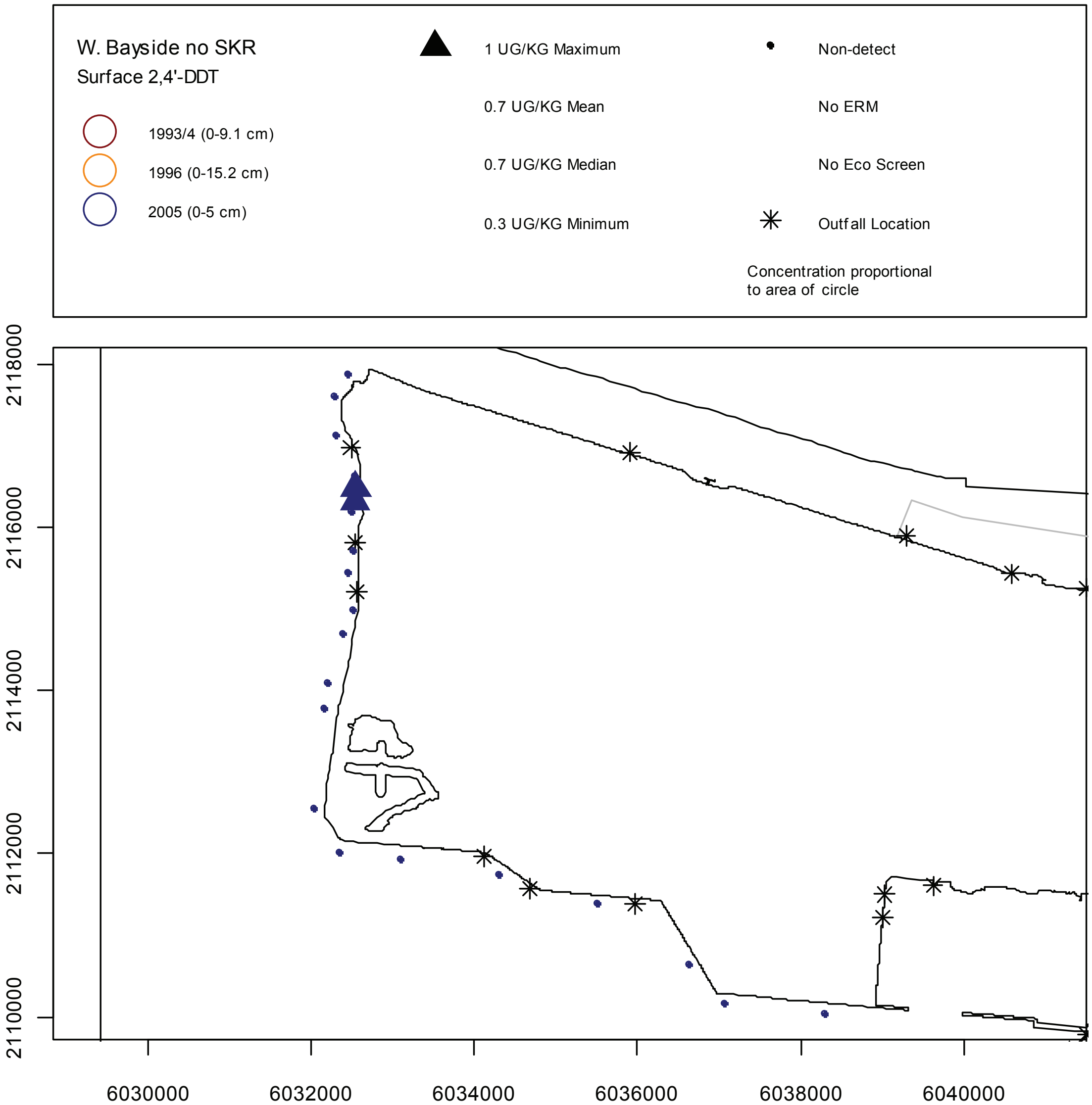


Figure A–171. Bubble Plots of 2,4'-DDT in Western Bayside Surface Sediment by Year.

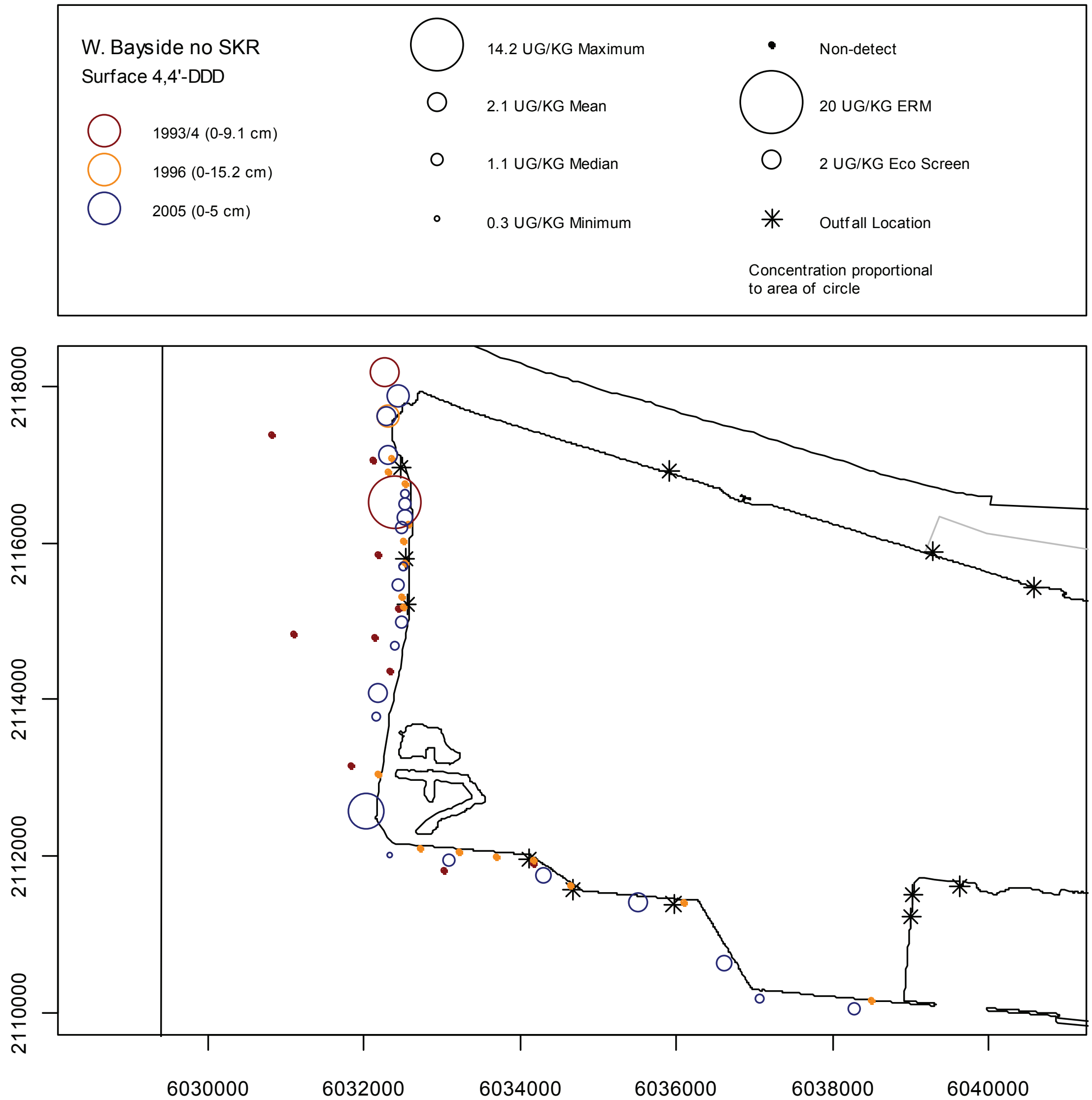


Figure A–172. Bubble Plots of 4,4'-DDD in Western Bayside Surface Sediment by Year.

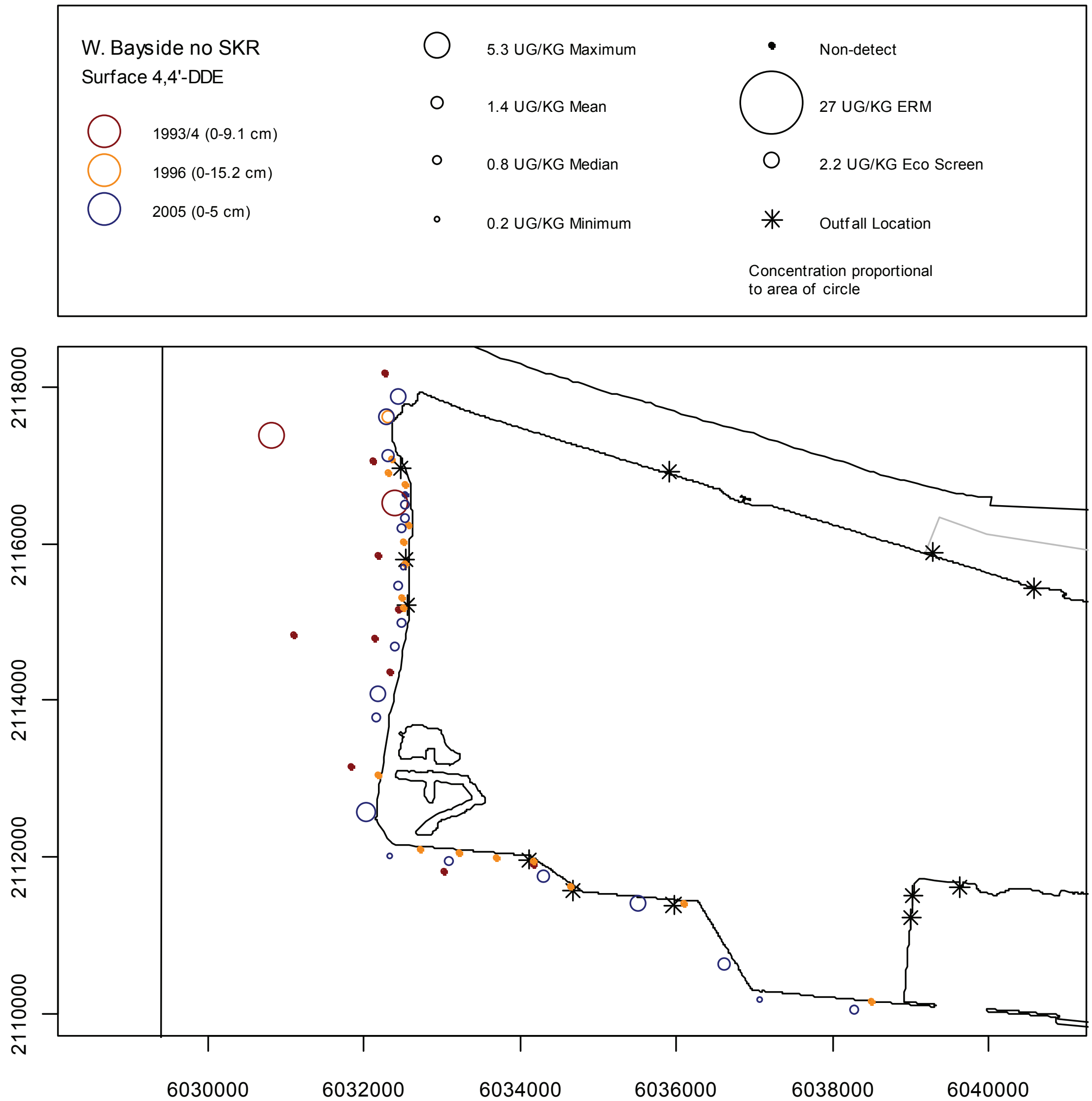


Figure A–173. Bubble Plots of 4,4'-DDE in Western Bayside Surface Sediment by Year.

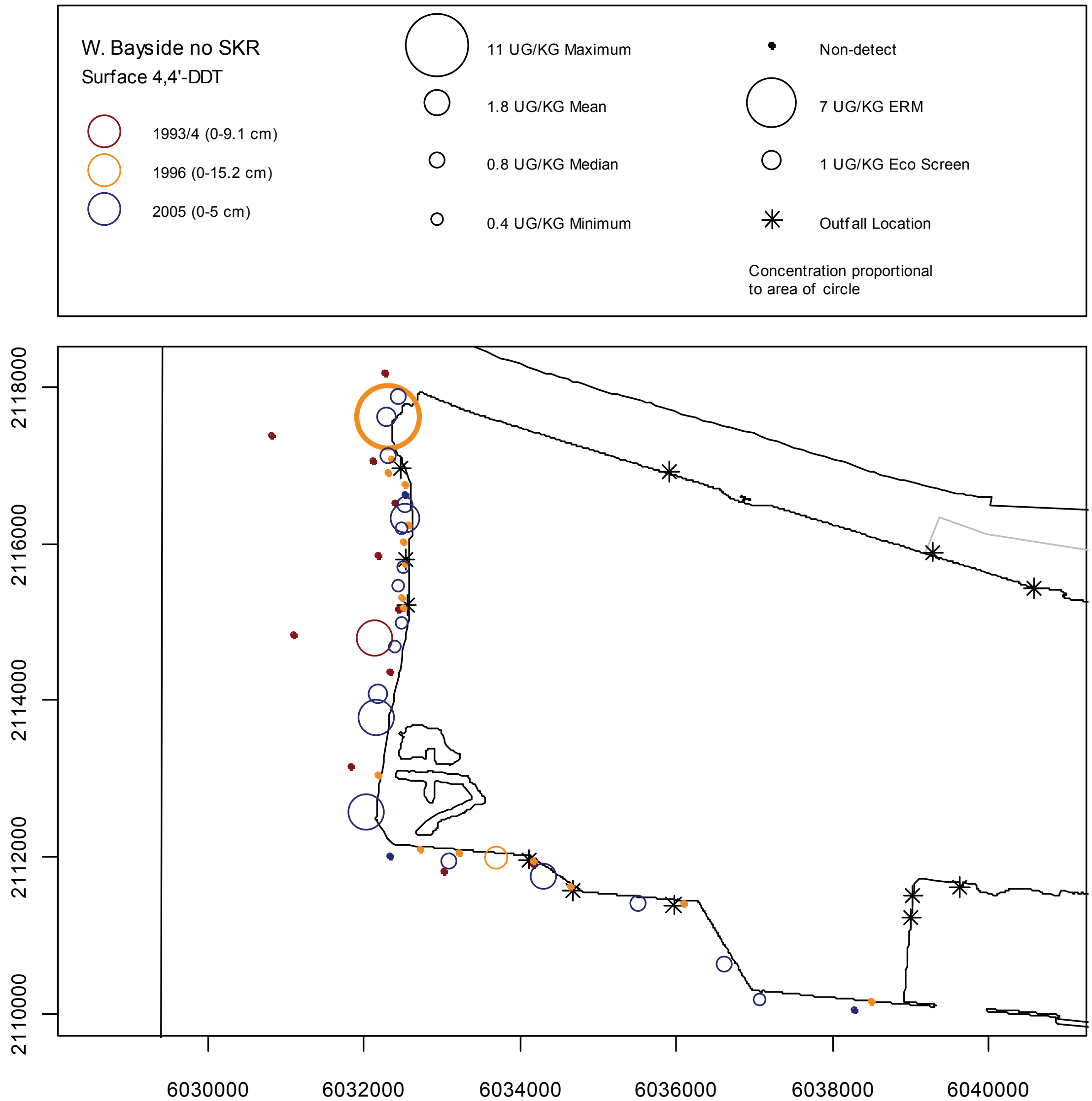


Figure A–174. Bubble Plots of 4,4'-DDT in Western Bayside Surface Sediment by Year.

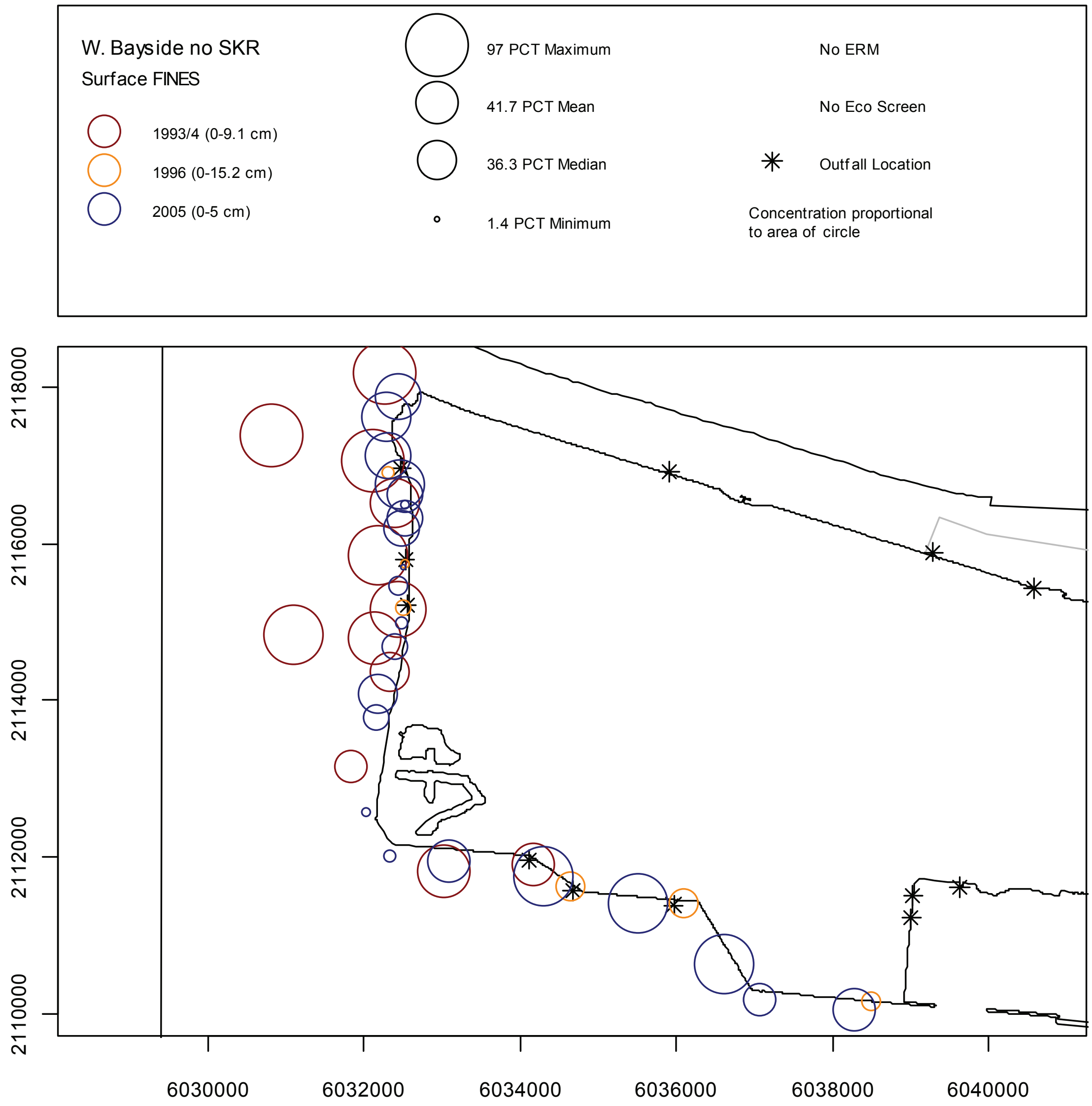


Figure A–175. Bubble Plots of Fine Grains in Western Bayside Surface Sediment by Year.

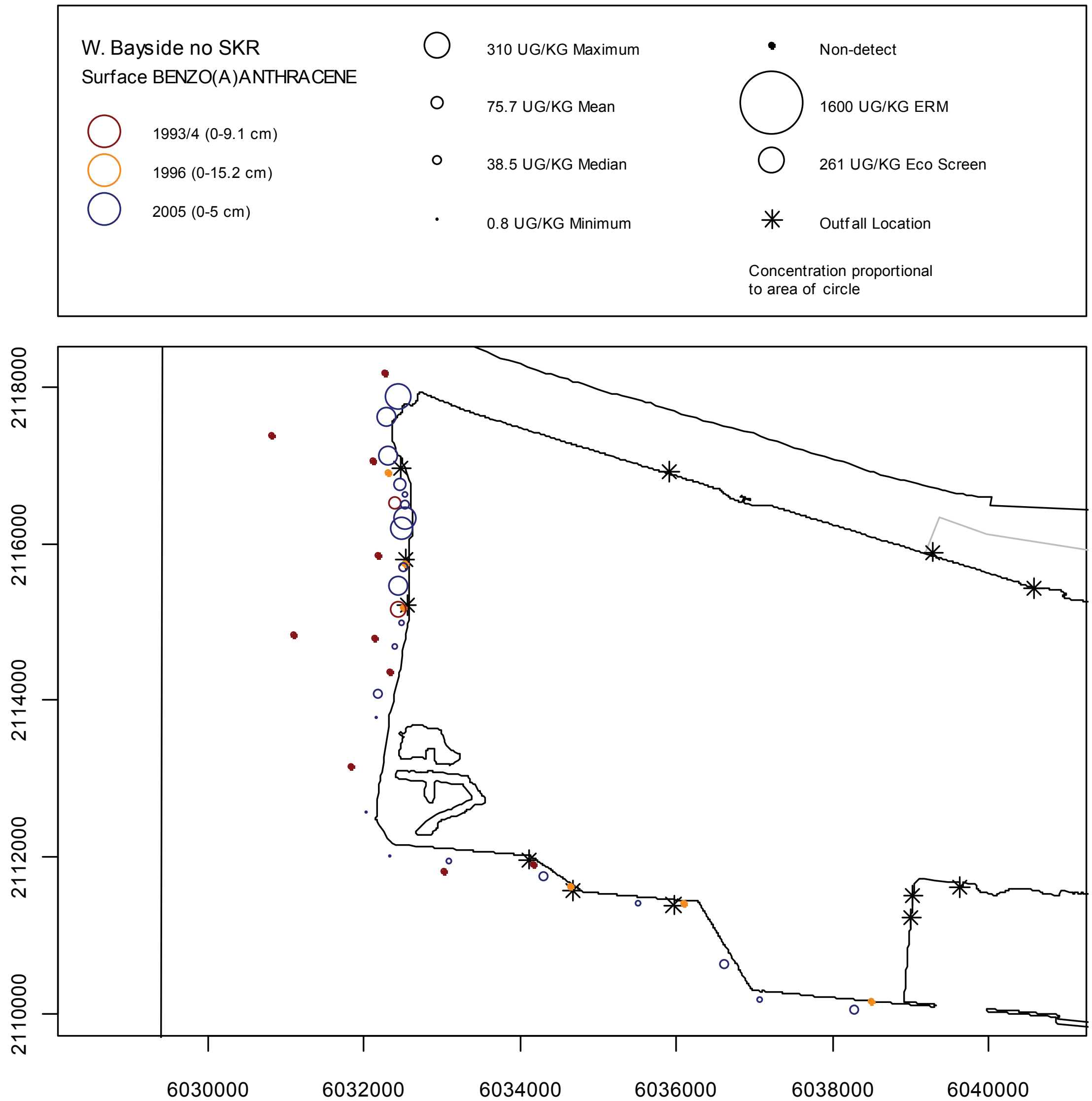


Figure A–176. Bubble Plots of Benzo(a)anthracene in Western Bayside Surface Sediment by Year.

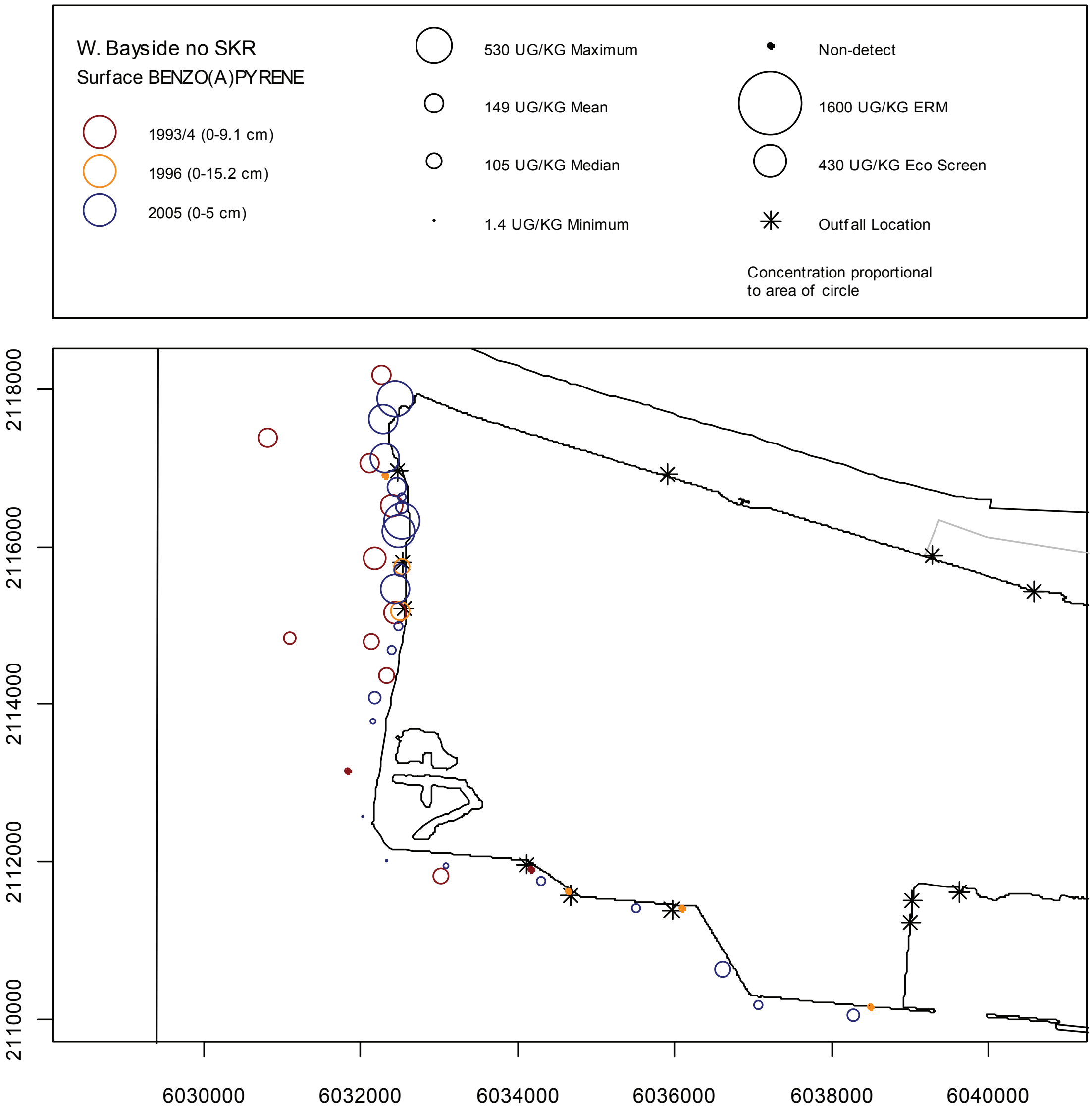


Figure A–177. Bubble Plots of Benzo(a)pyrene in Western Bayside Surface Sediment by Year.

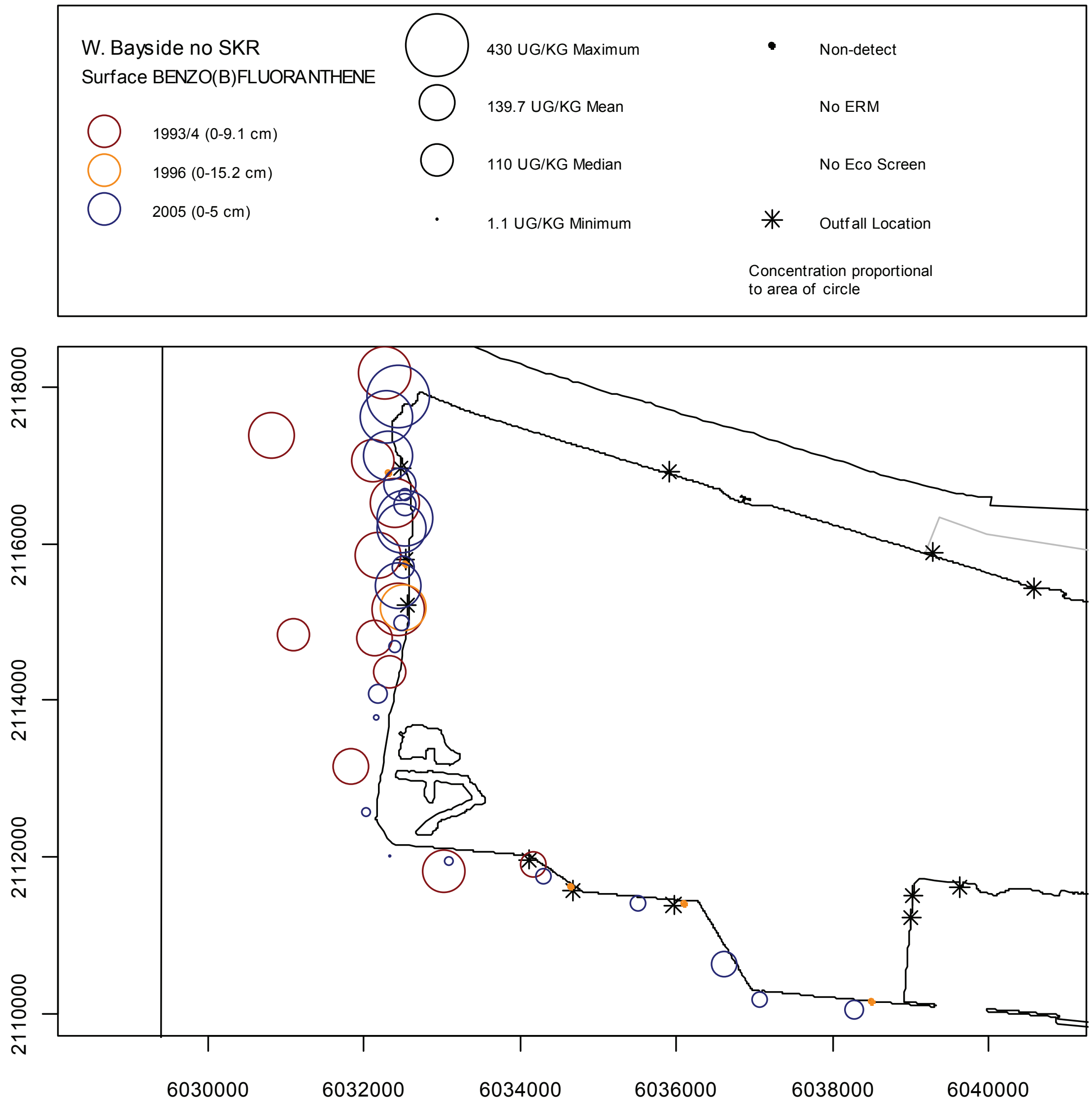


Figure A–178. Bubble Plots of Benzo(b)fluoranthene in Western Bayside Surface Sediment by Year.

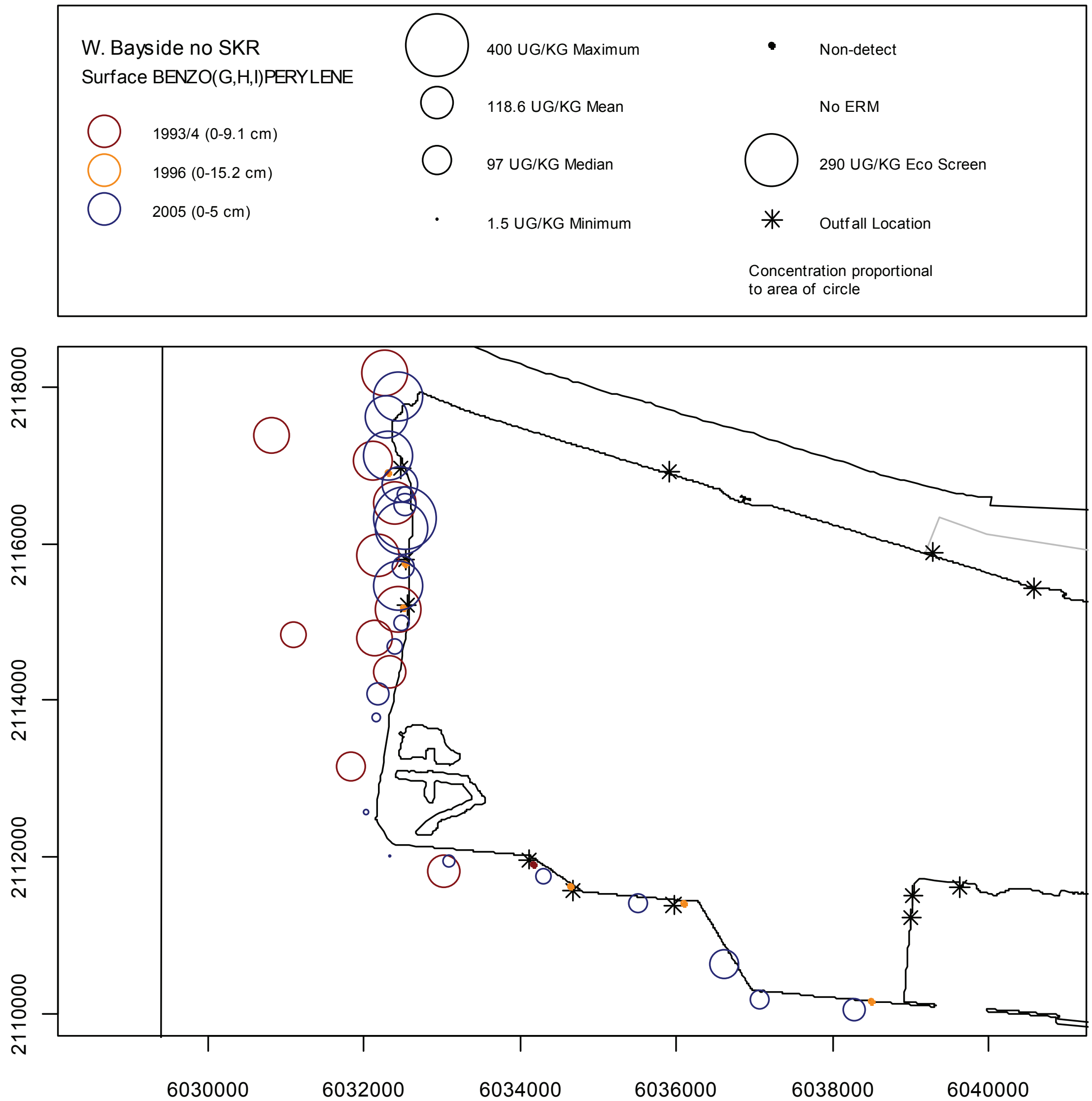


Figure A–179. Bubble Plots of Benzo(g,h,i)perylene in Western Bayside Surface Sediment by Year.

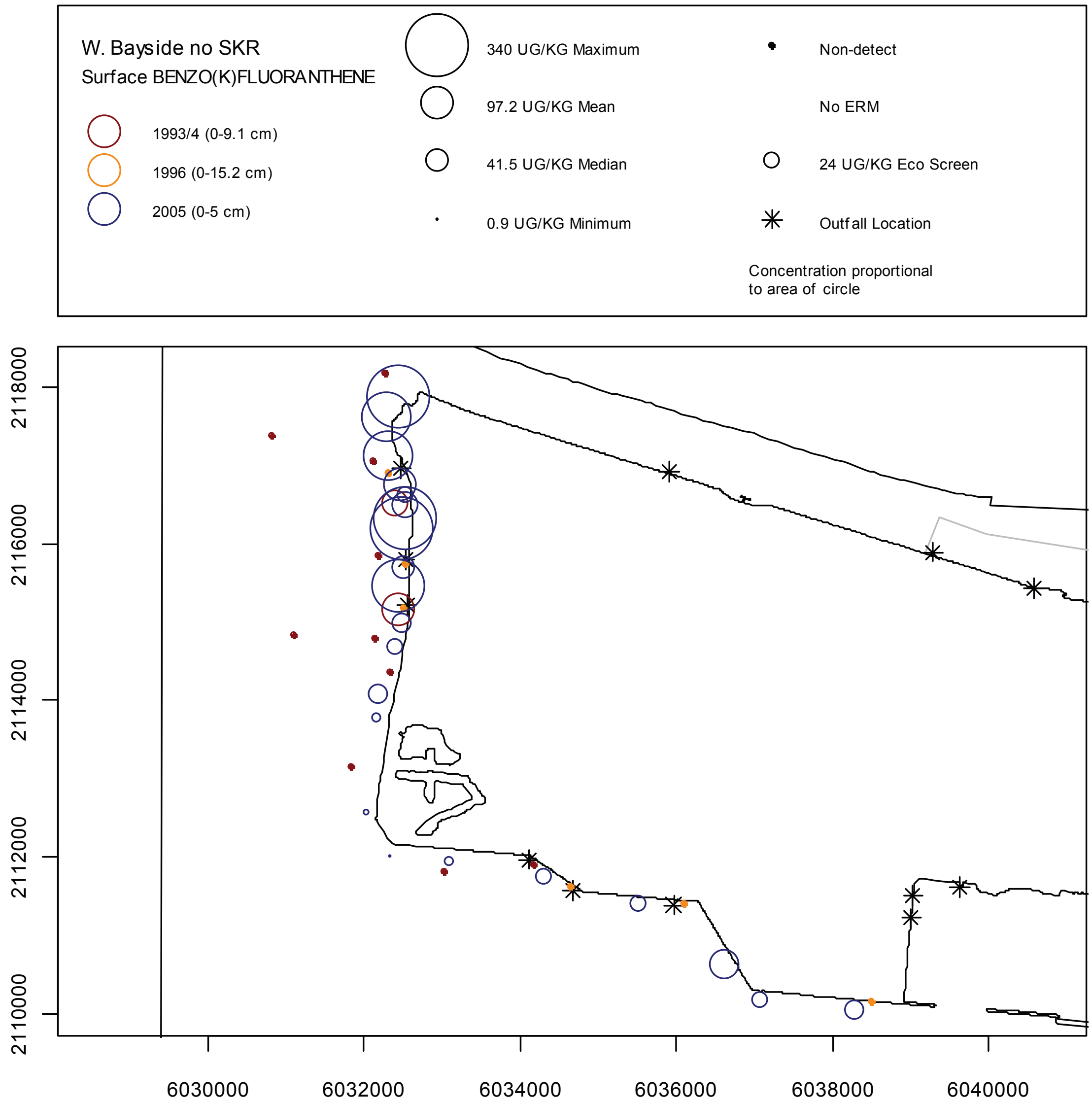


Figure A–180. Bubble Plots of Benzo(k)fluoranthene in Western Bayside Surface Sediment by Year.

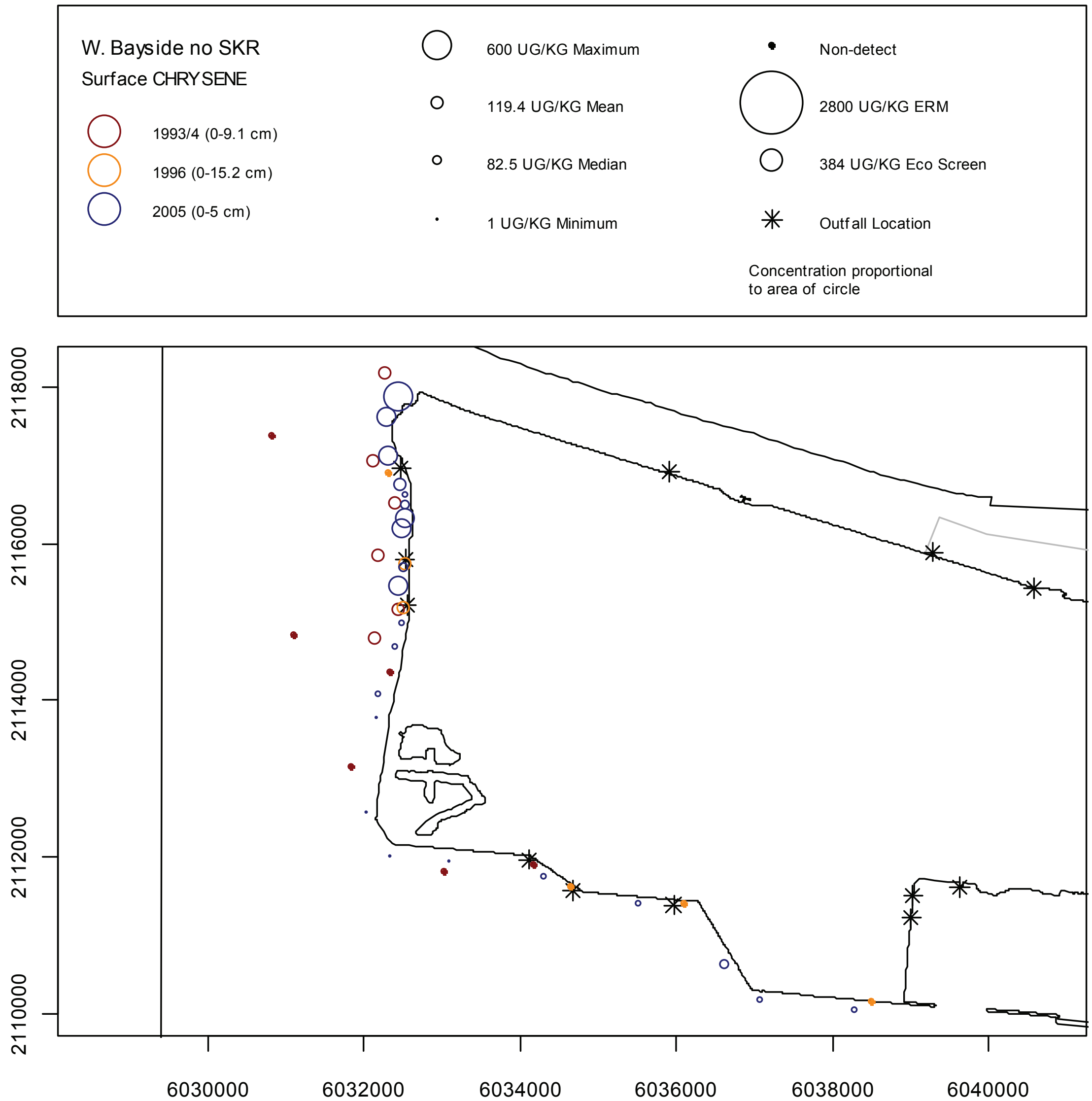


Figure A–181. Bubble Plots of Chrysene in Western Bayside Surface Sediment by Year.

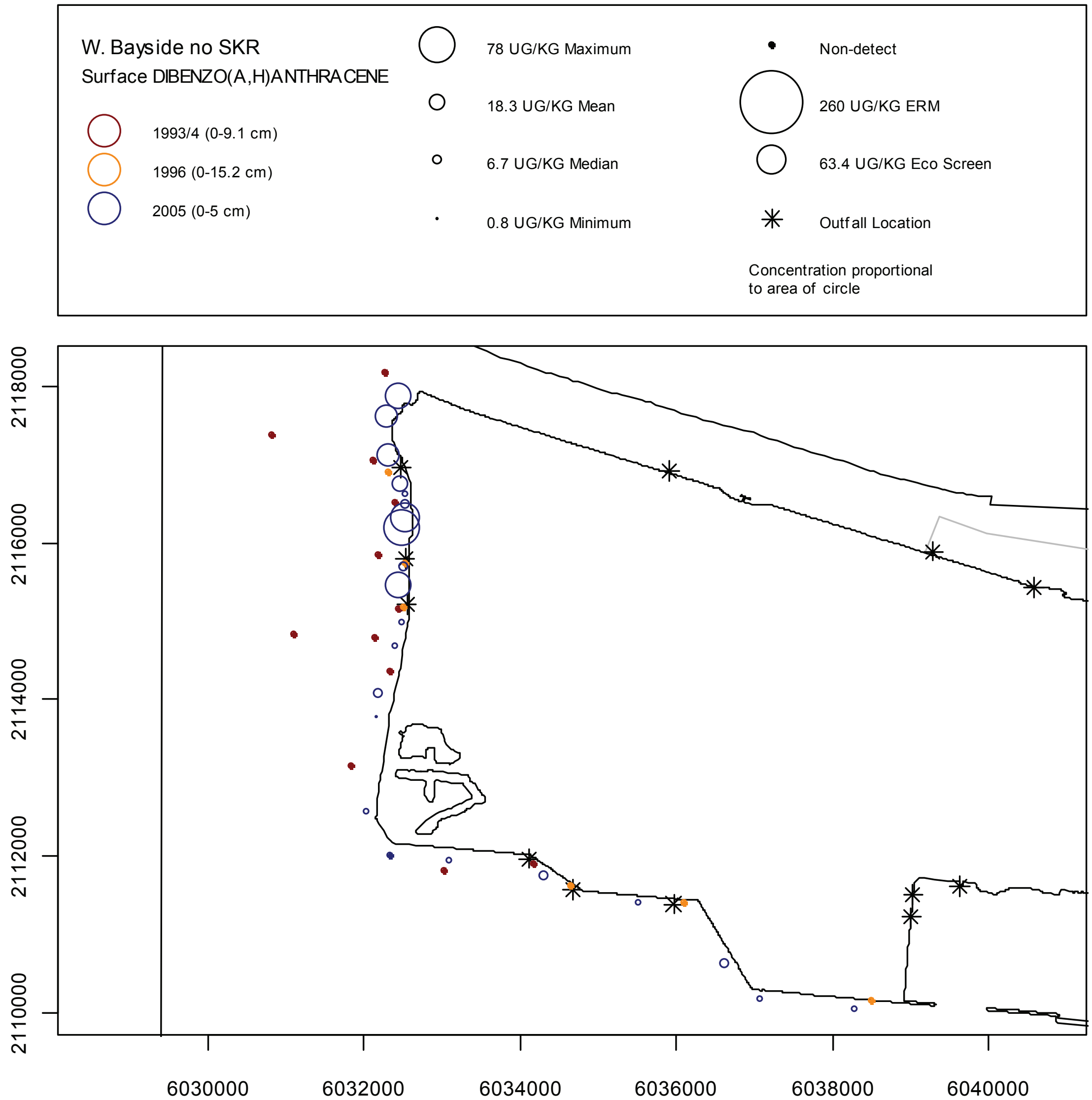


Figure A–182. Bubble Plots of Dibenzo(a,h)anthracene in Western Bayside Surface Sediment by Year.

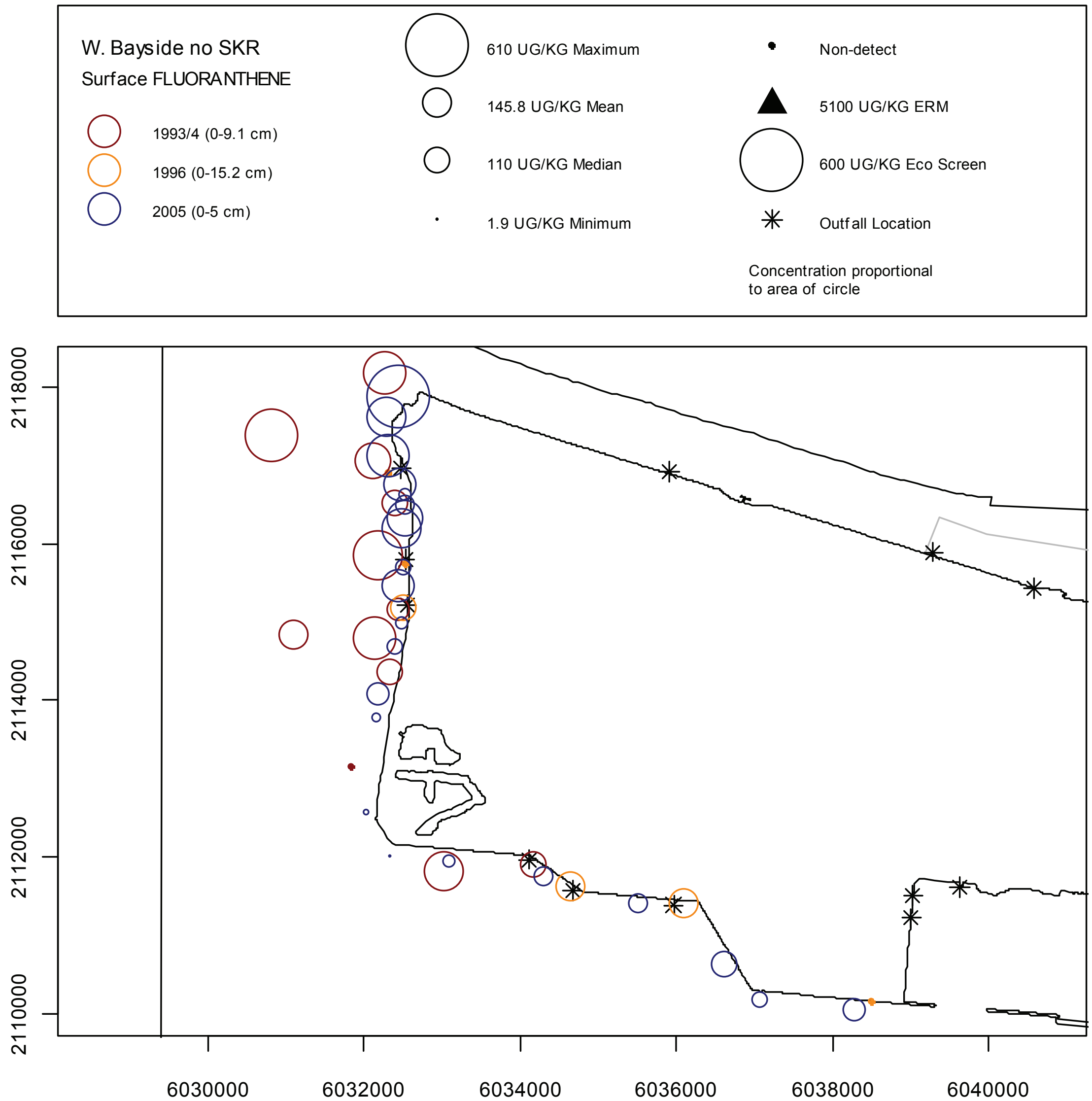


Figure A–183. Bubble Plots of Fluoranthene in Western Bayside Surface Sediment by Year.

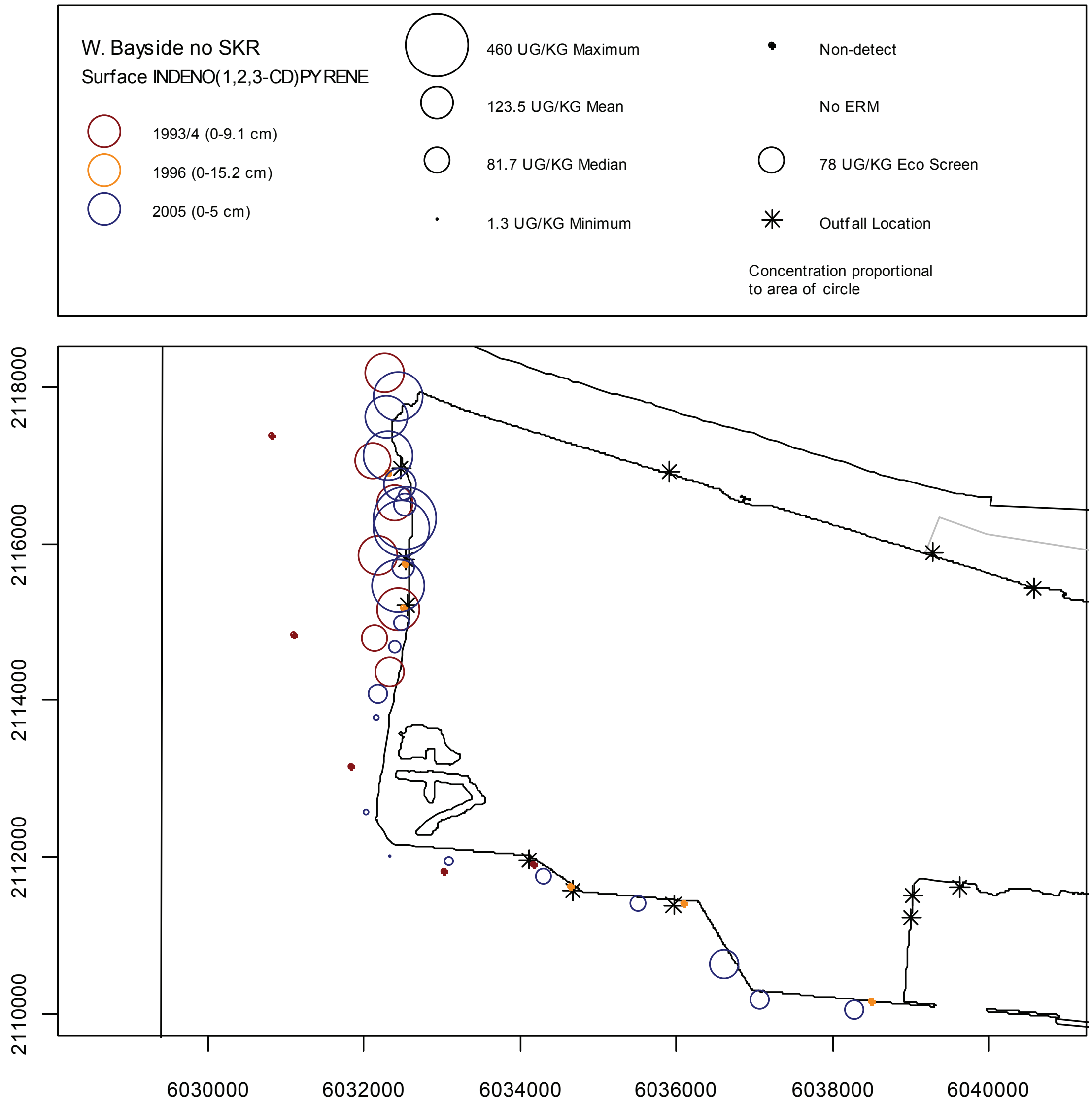


Figure A–184. Bubble Plots of Indeno(1,2,3-cd)pyrene in Western Bayside Surface Sediment by Year.

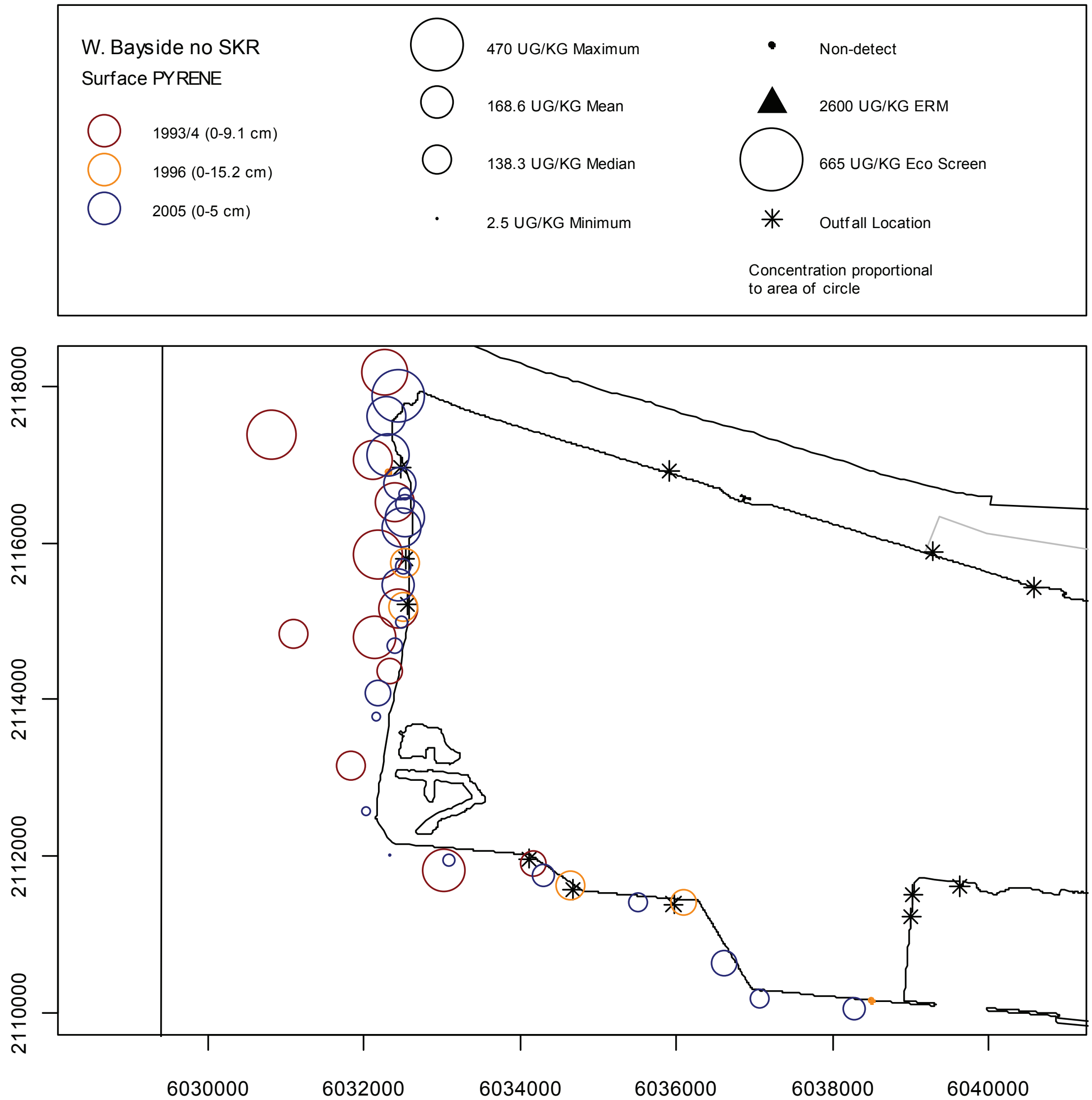


Figure A–185. Bubble Plots of Pyrene in Western Bayside Surface Sediment by Year.

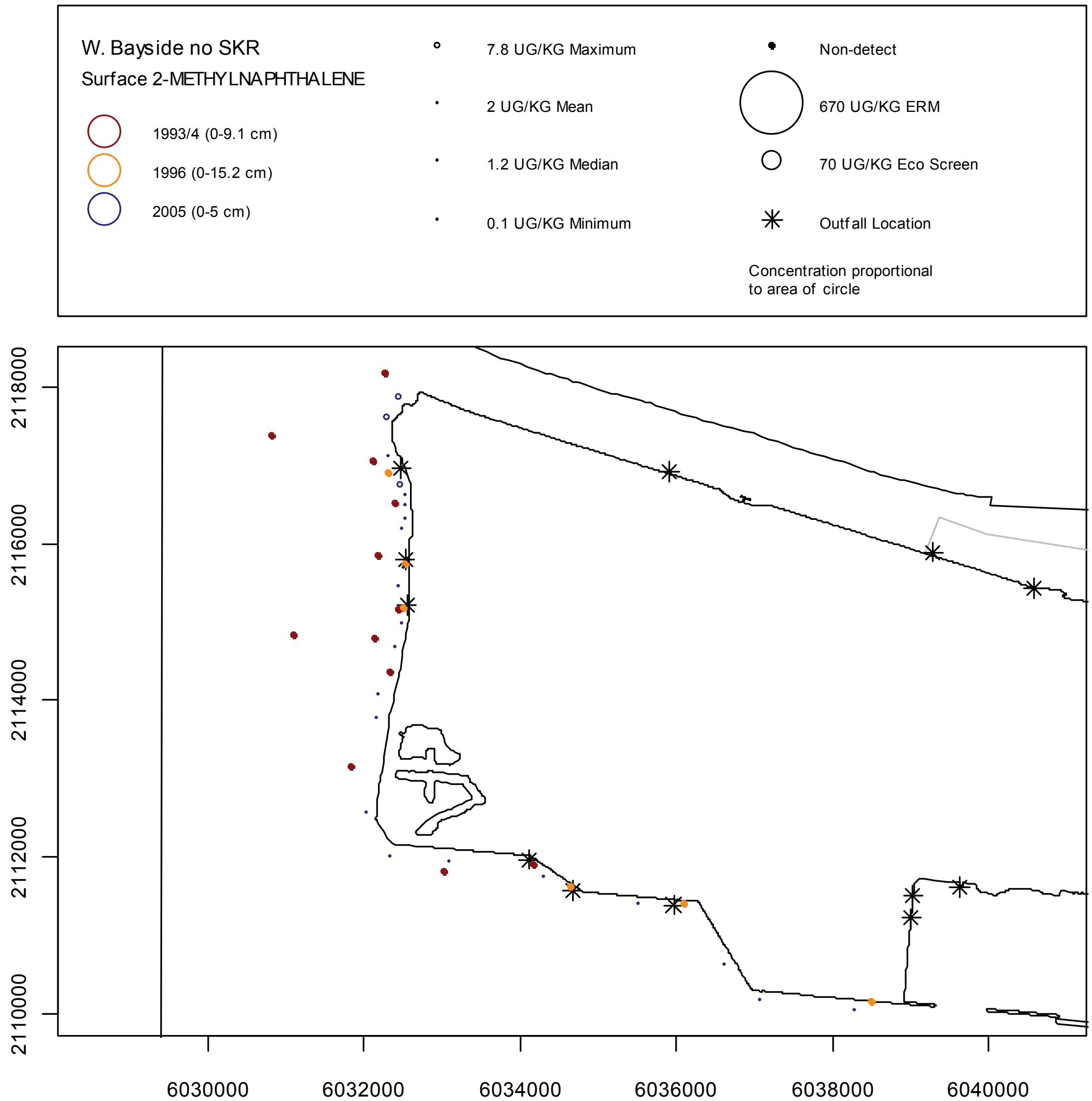


Figure A–186. Bubble Plots of 2-Methylnaphthalene in Western Bayside Surface Sediment by Year.

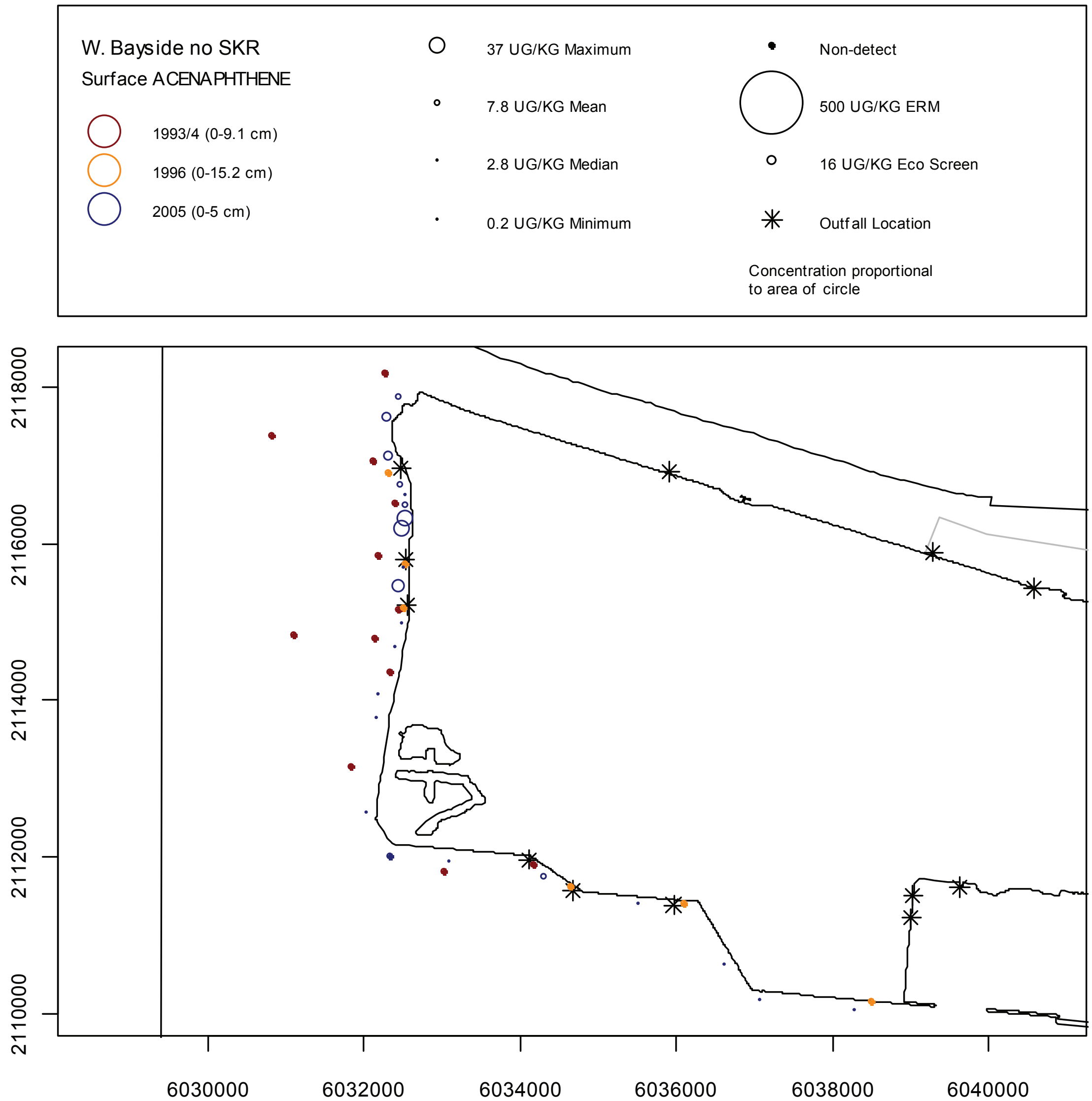


Figure A–187. Bubble Plots of Acenaphthene in Western Bayside Surface Sediment by Year.

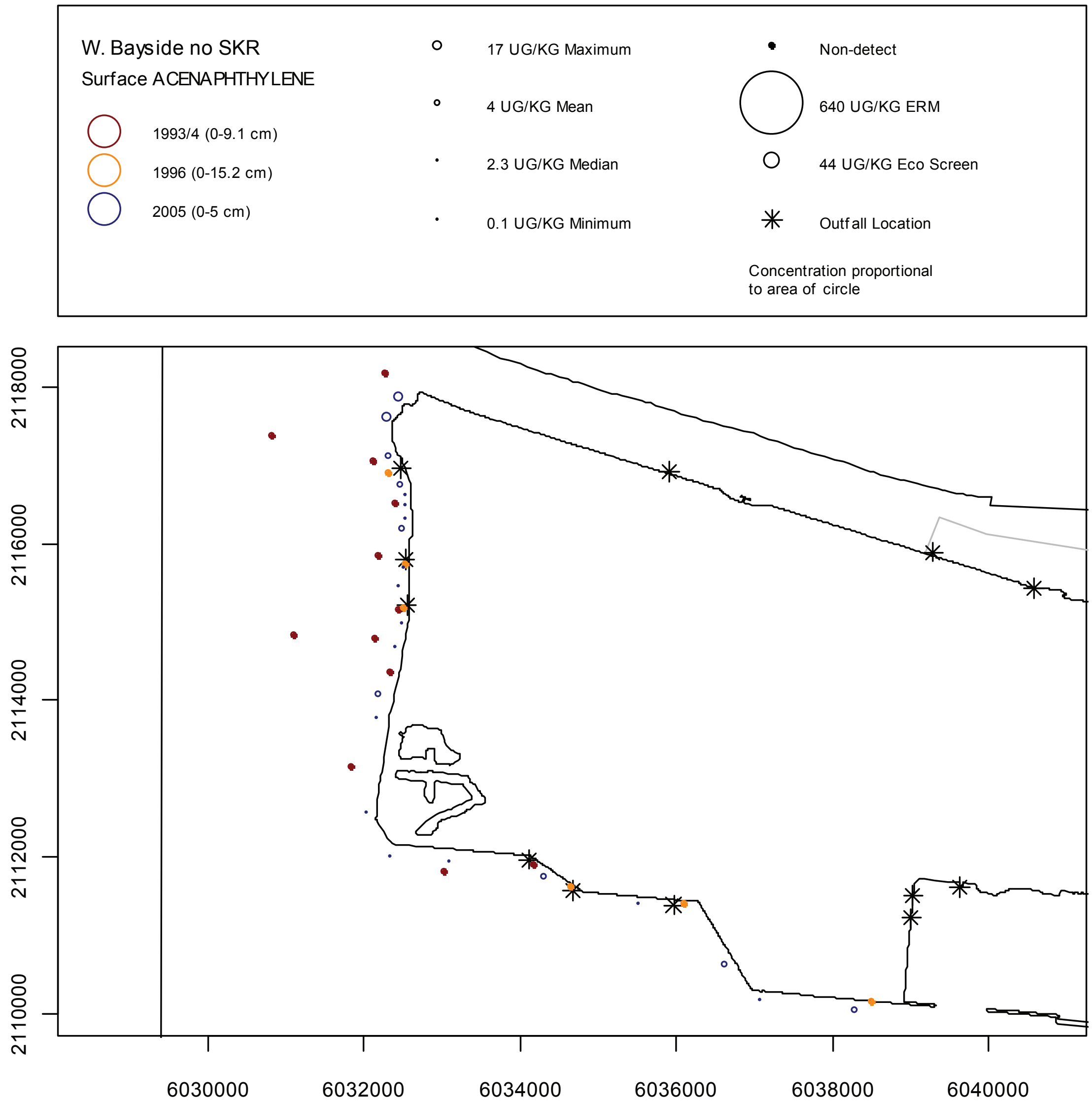


Figure A–188. Bubble Plots of Acenaphthylene in Western Bayside Surface Sediment by Year.

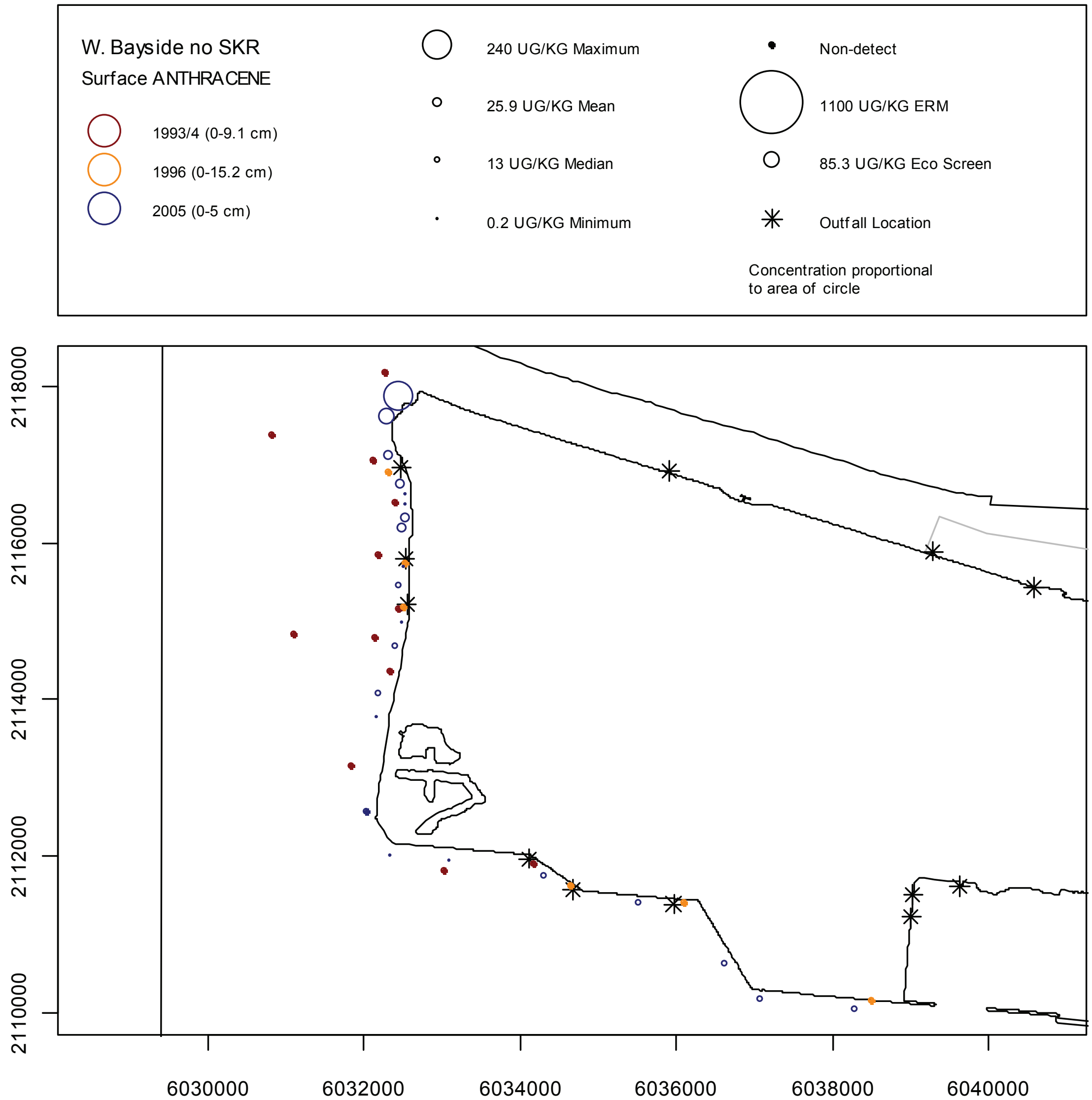


Figure A–189. Bubble Plots of Anthracene in Western Bayside Surface Sediment by Year.

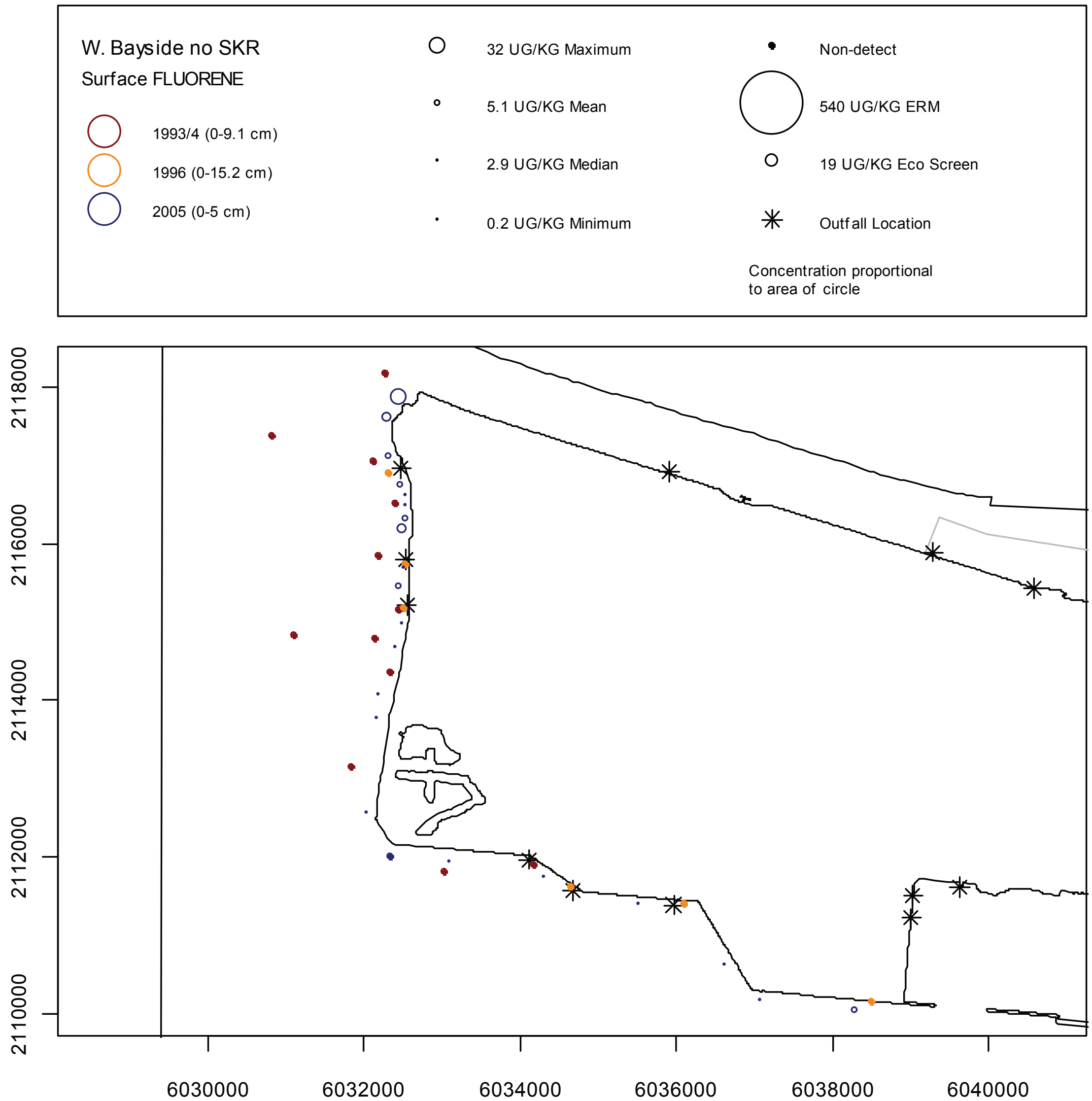


Figure A–190. Bubble Plots of Fluorene in Western Bayside Surface Sediment by Year.

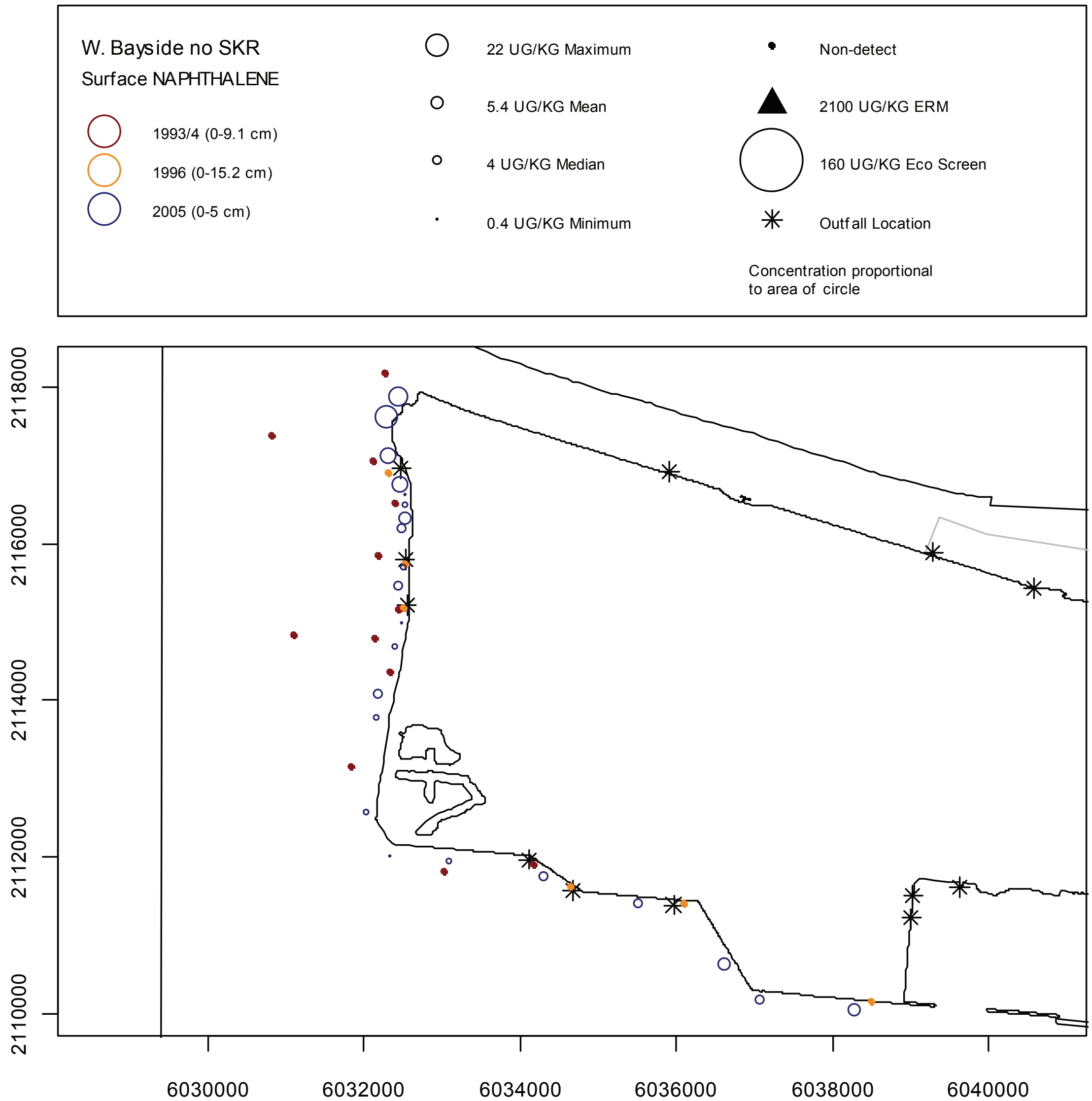


Figure A–191. Bubble Plots of Naphthalene in Western Bayside Surface Sediment by Year.

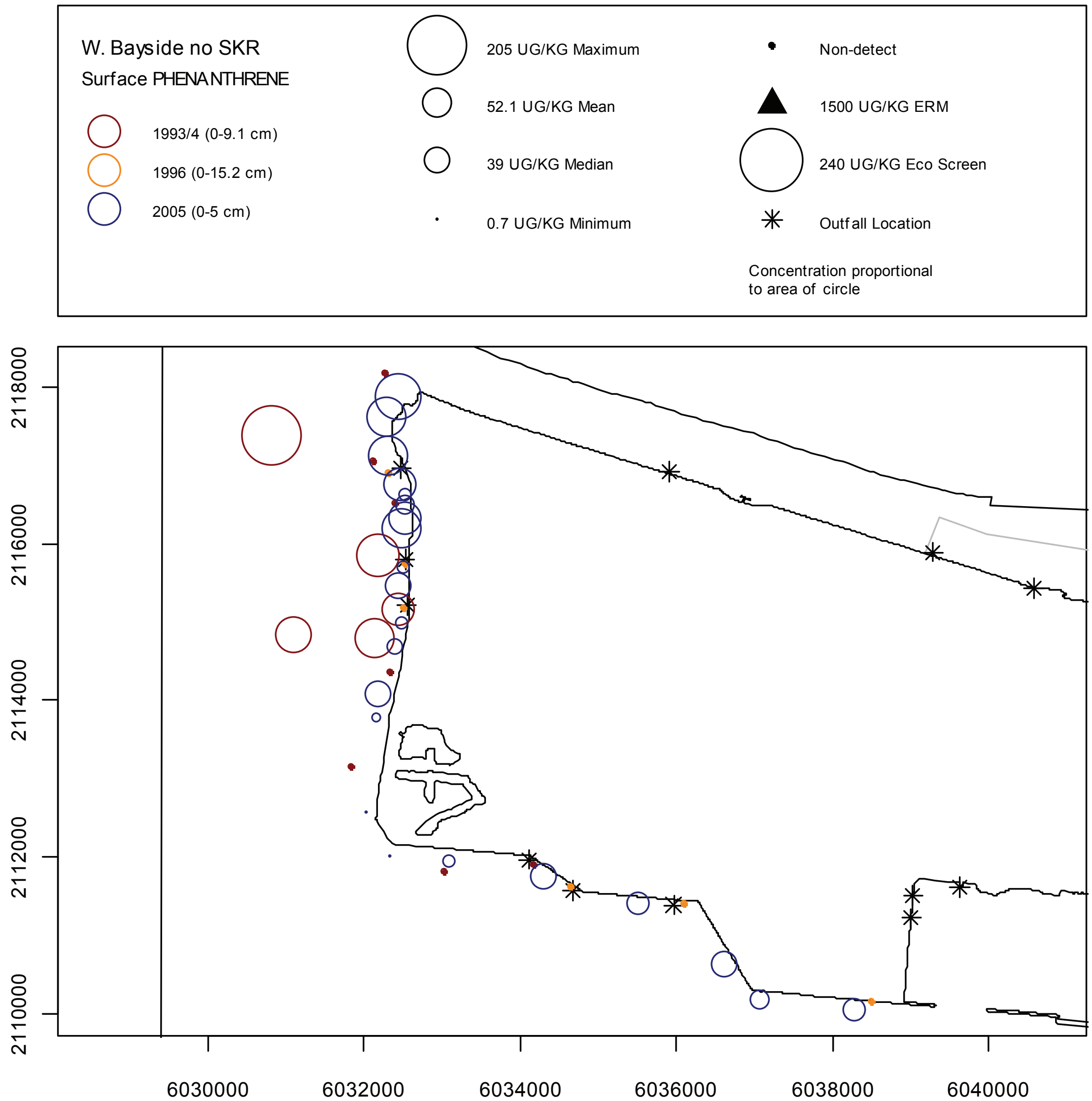


Figure A–192. Bubble Plots of Phenanthrene in Western Bayside Surface Sediment by Year.

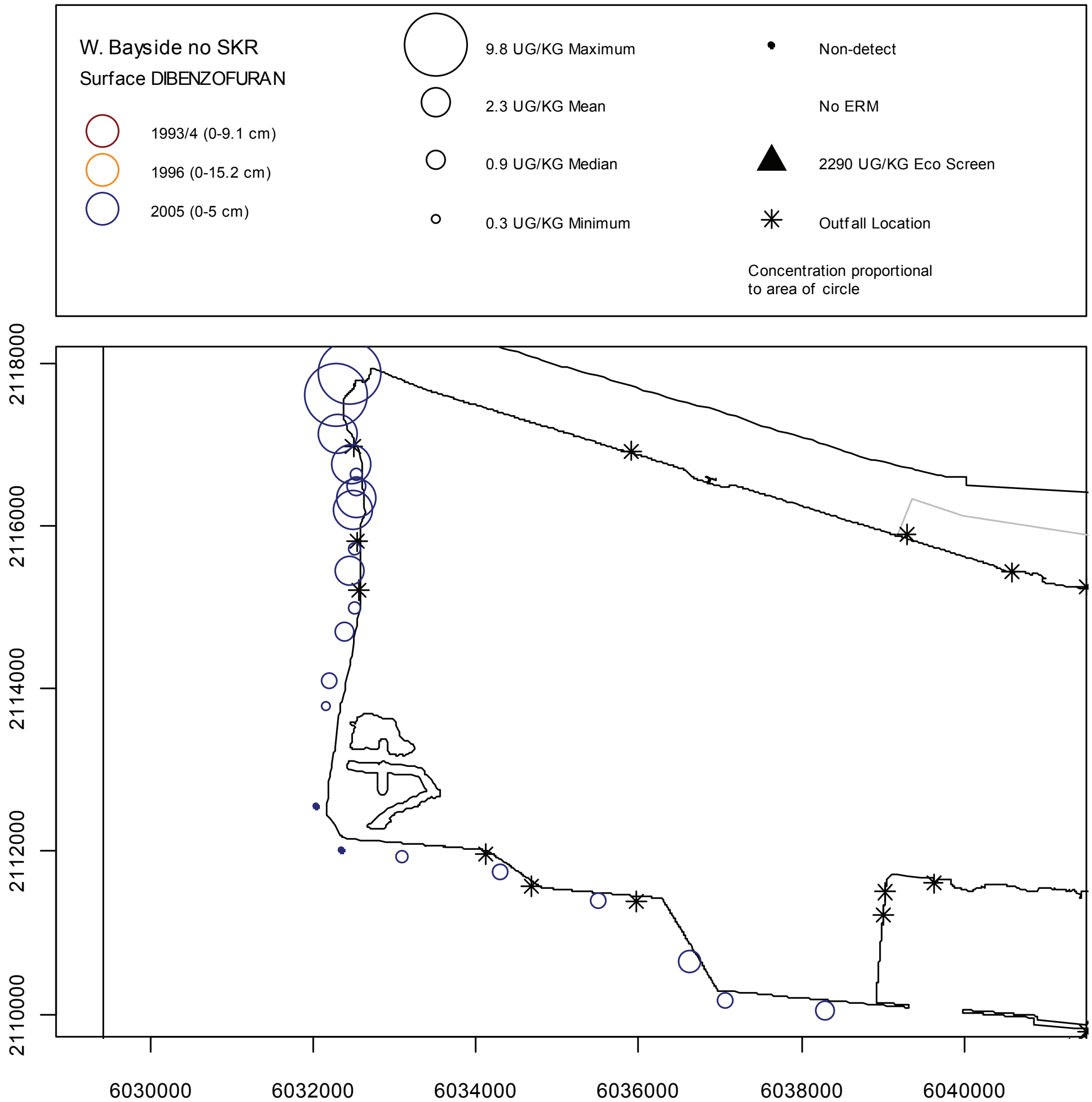


Figure A–193. Bubble Plots of Dibenzofuran in Western Bayside Surface Sediment by Year.

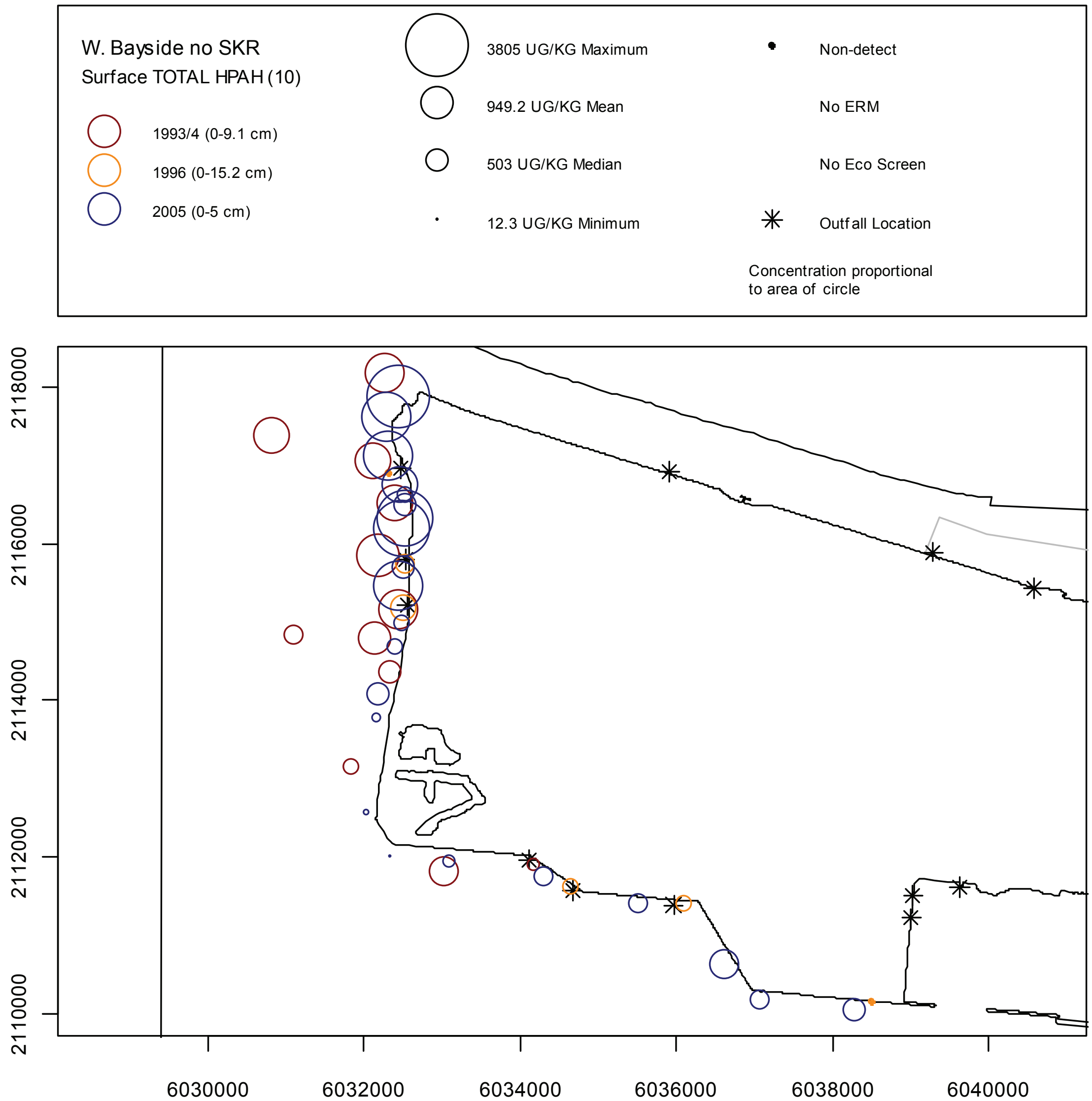


Figure A–194. Bubble Plots of Total HPAH(10) in Western Bayside Surface Sediment by Year.

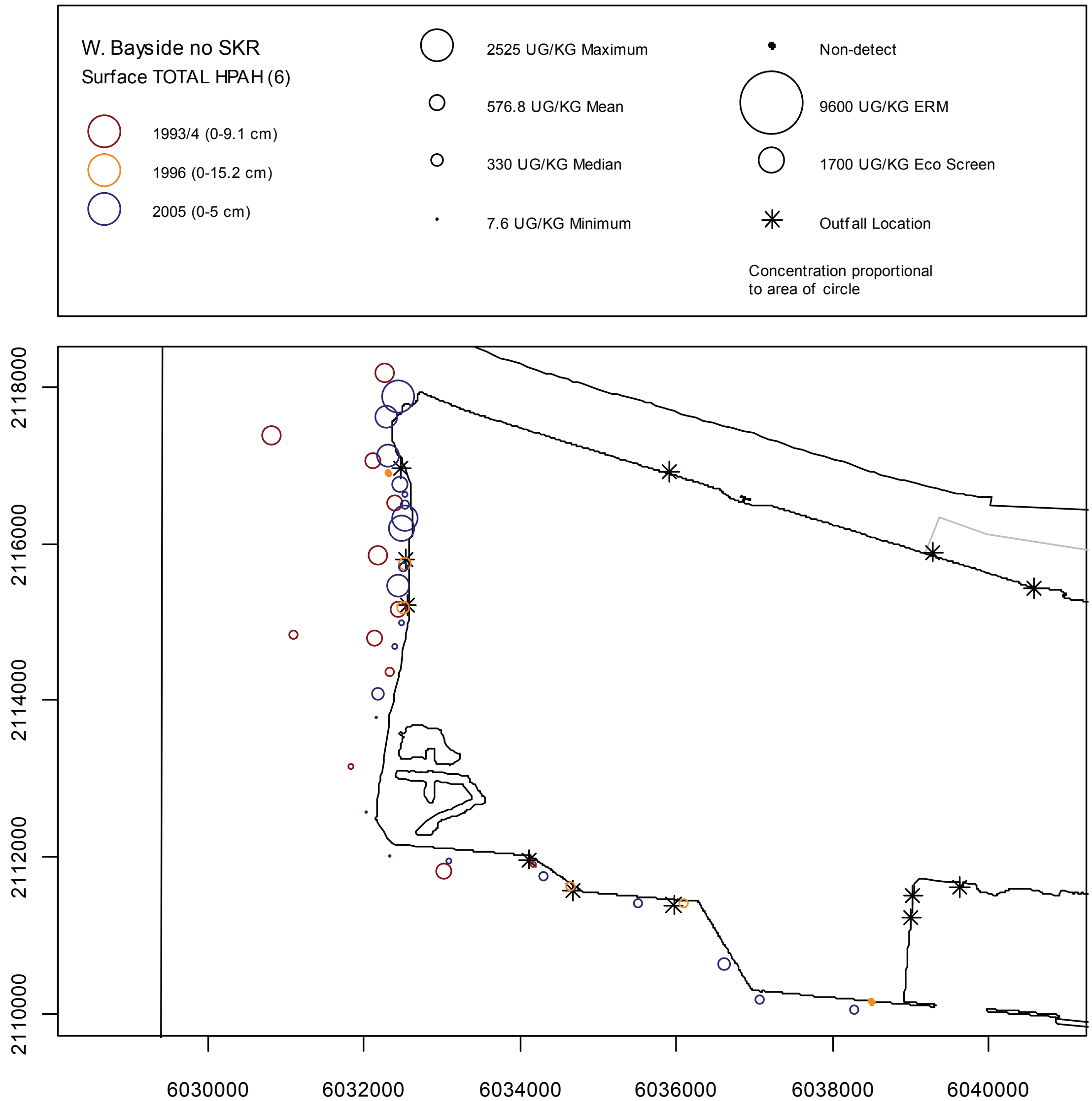


Figure A–195. Bubble Plots of Total HPAH(6) in Western Bayside Surface Sediment by Year.

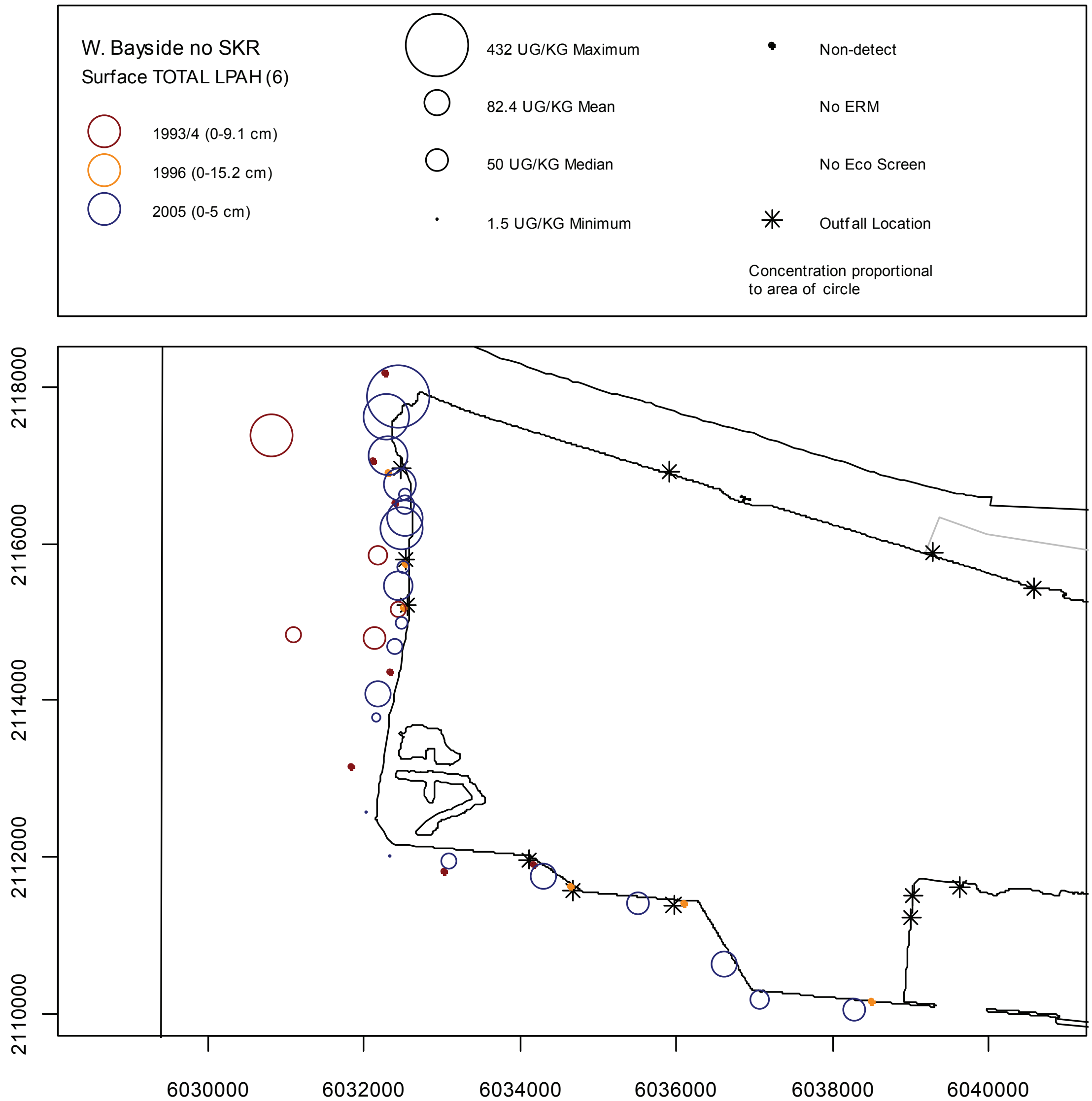


Figure A–196. Bubble Plots of Total LPAH(6) in Western Bayside Surface Sediment by Year.

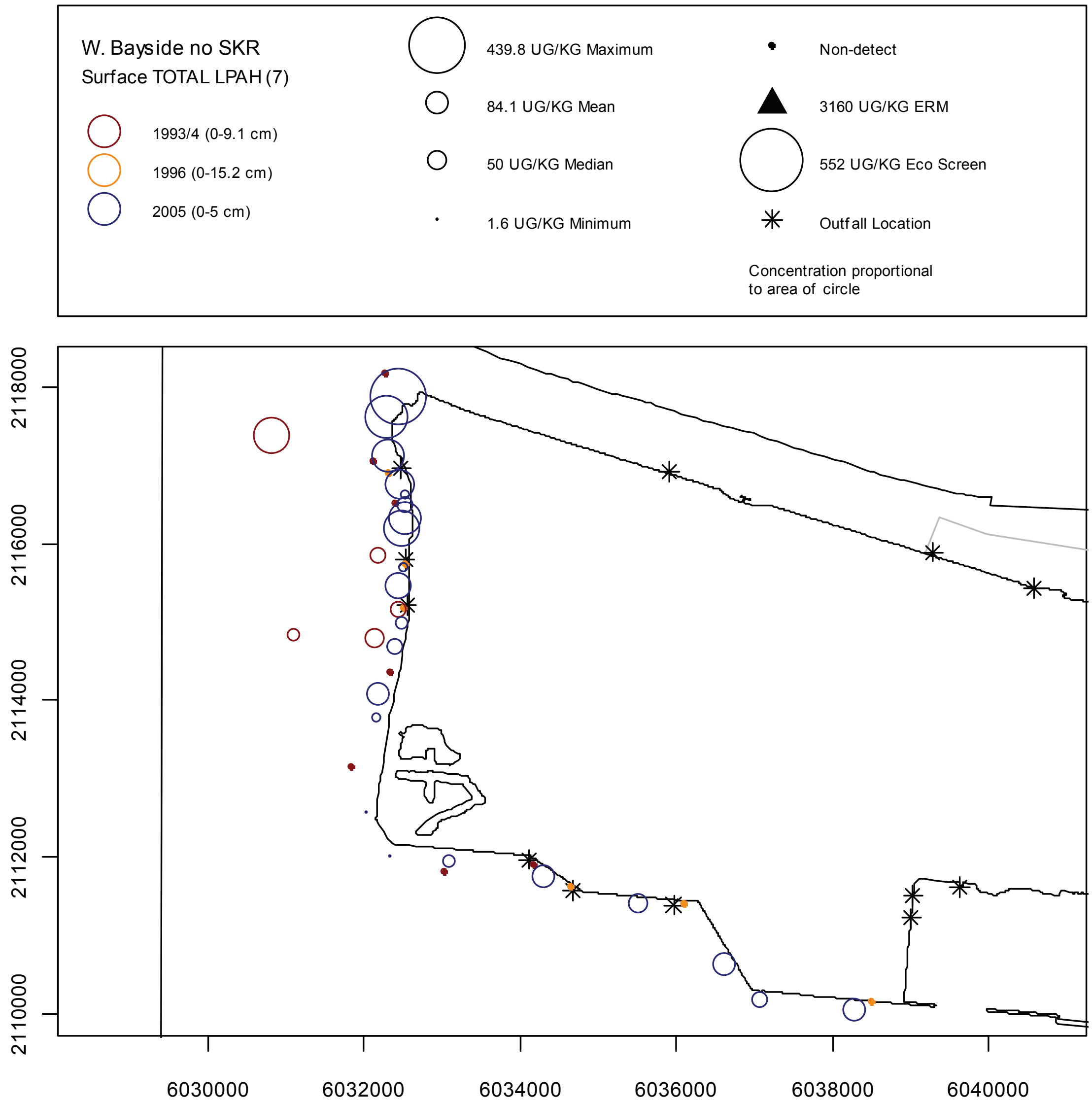


Figure A–197. Bubble Plots of Total LPAH(7) in Western Bayside Surface Sediment by Year.

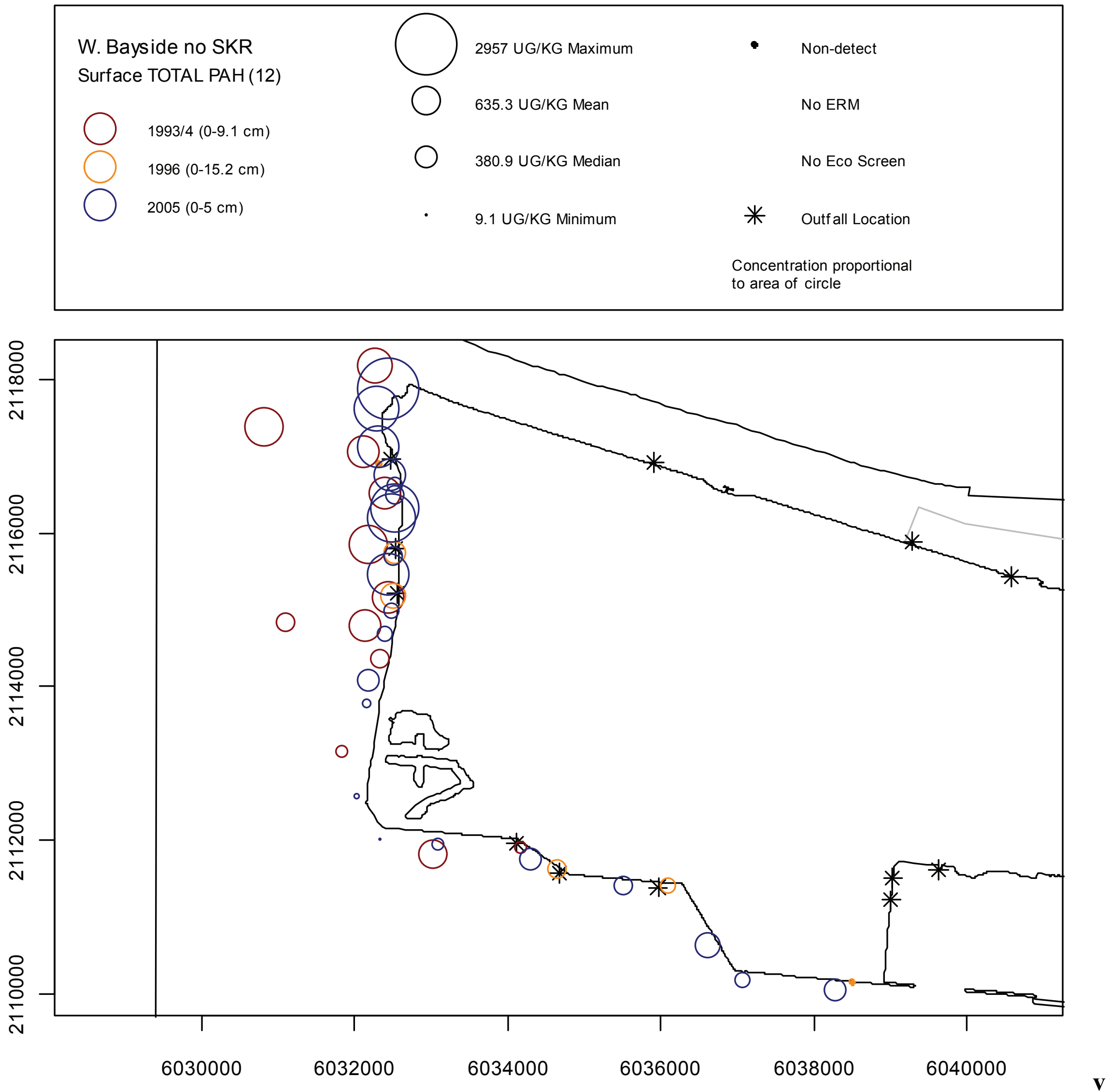


Figure A–198. Bubble Plots of Total PAH(12) in Western Bayside Surface Sediment by Year.

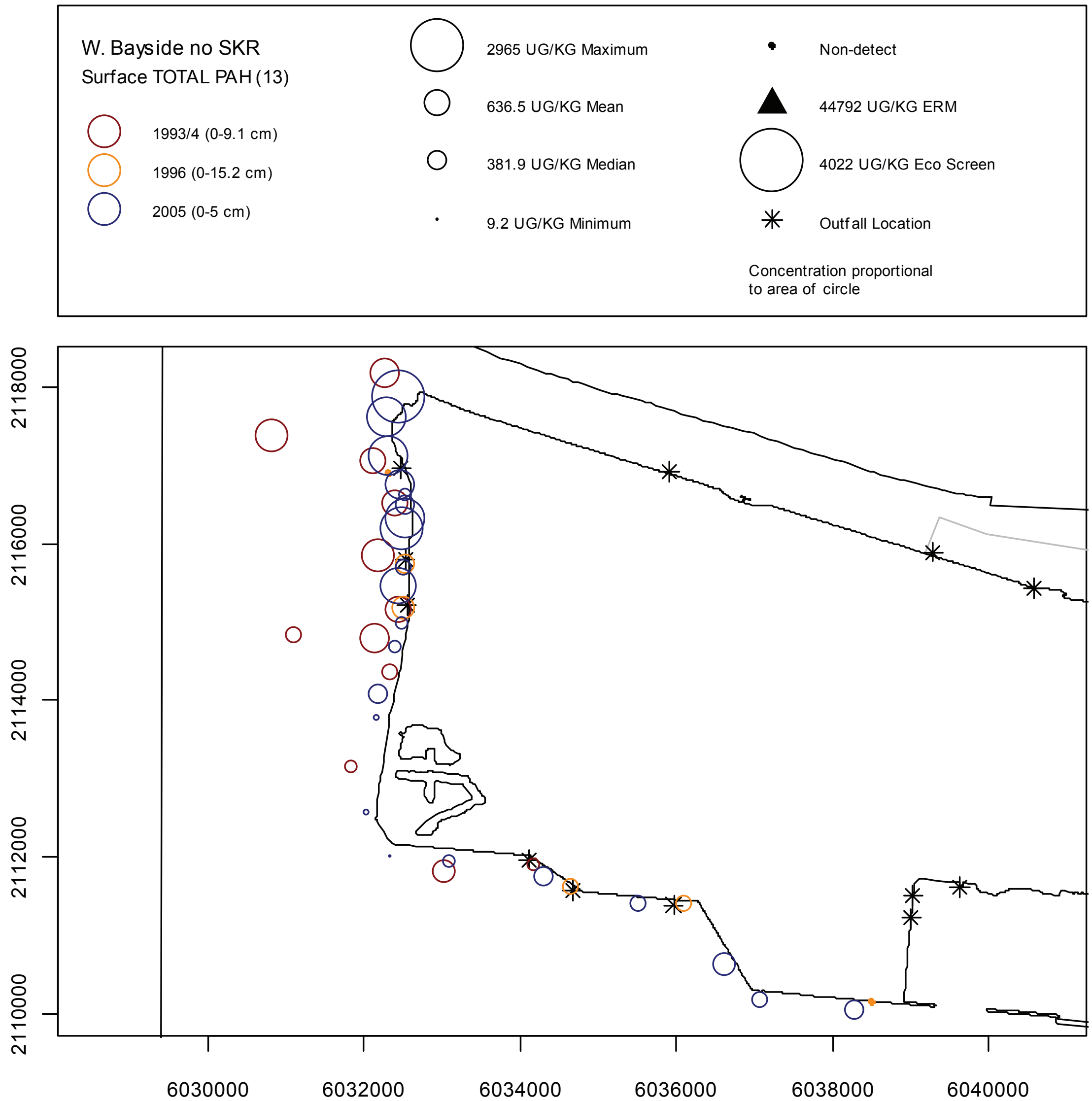


Figure A–199. Bubble Plots of Total PAH(13) in Western Bayside Surface Sediment by Year.

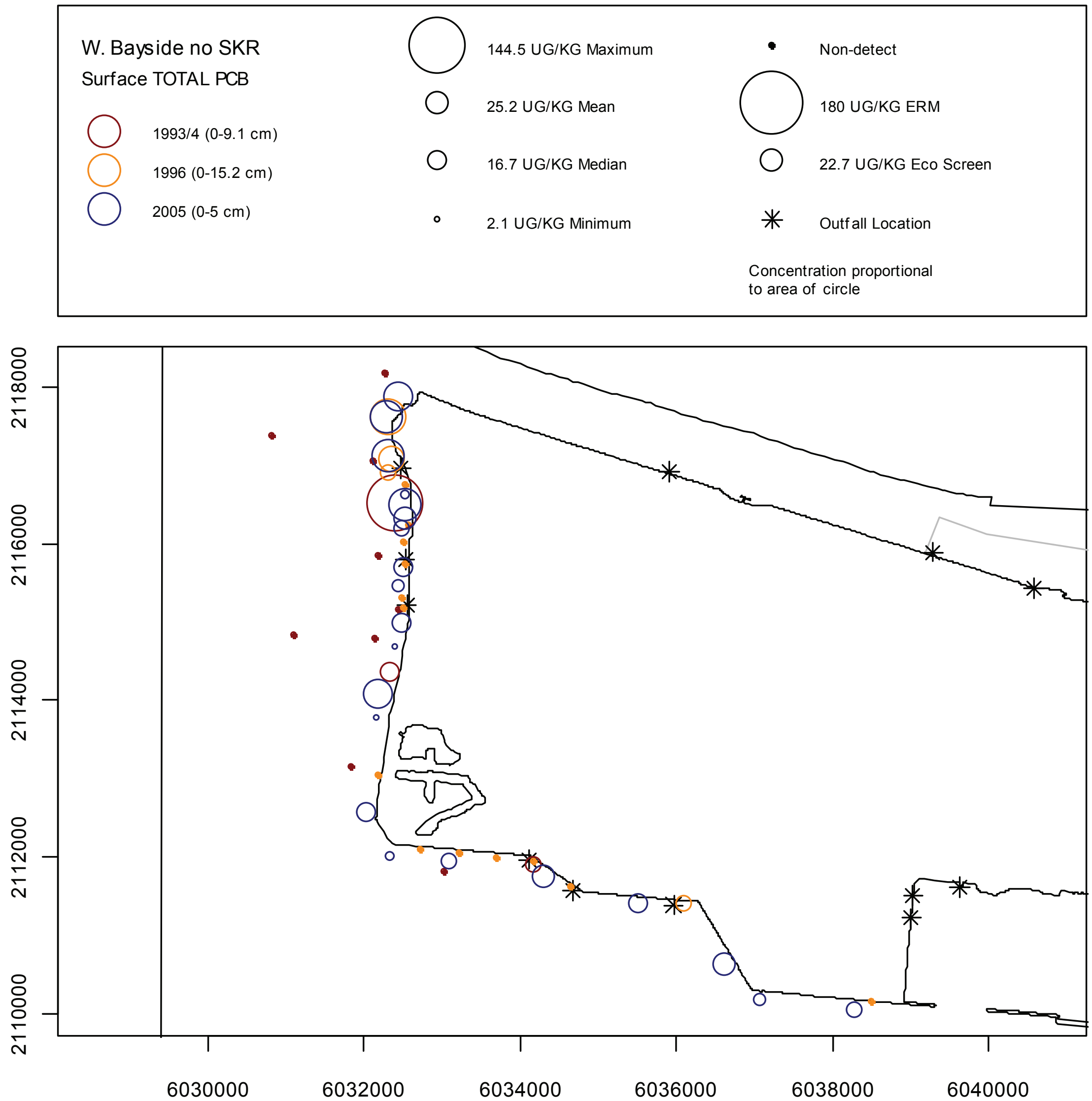


Figure A–200. Bubble Plots of Total PCB in Western Bayside Surface Sediment by Year.

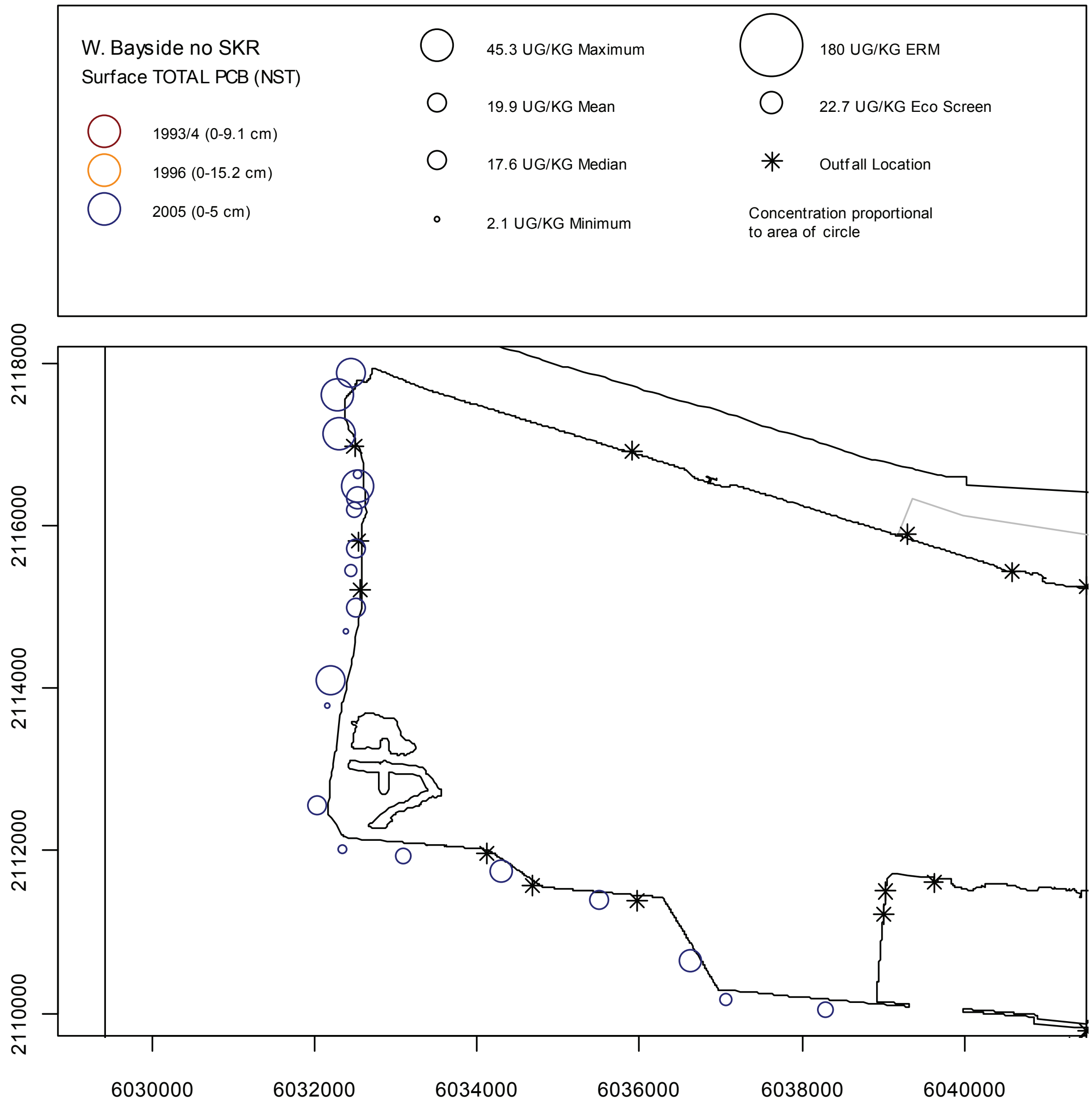


Figure A–201. Bubble Plots of Total PCB(NST) in Western Bayside Surface Sediment by Year.

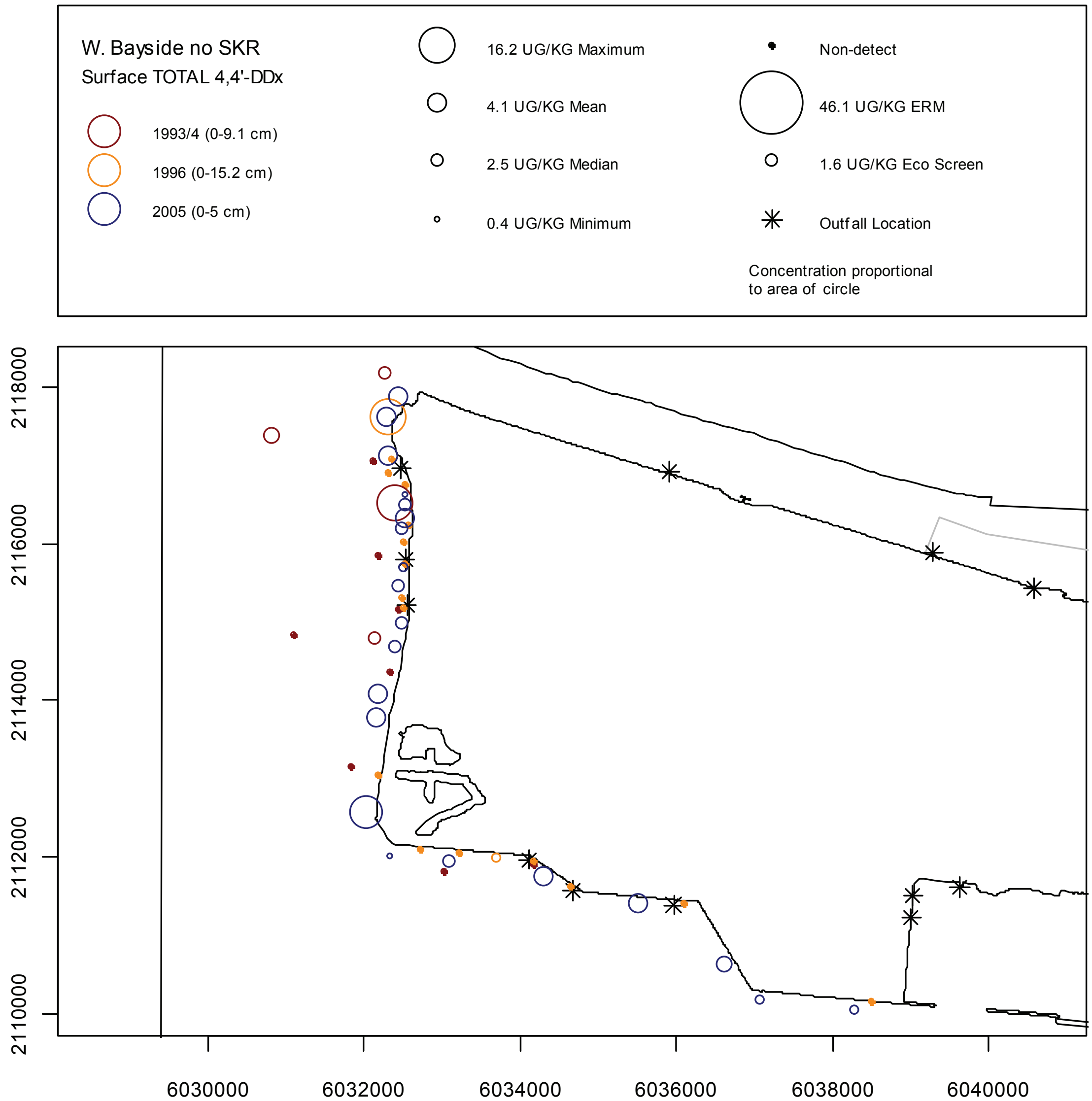


Figure A–202. Bubble Plots of Total 4,4'-DDx in Western Bayside Surface Sediment by Year.

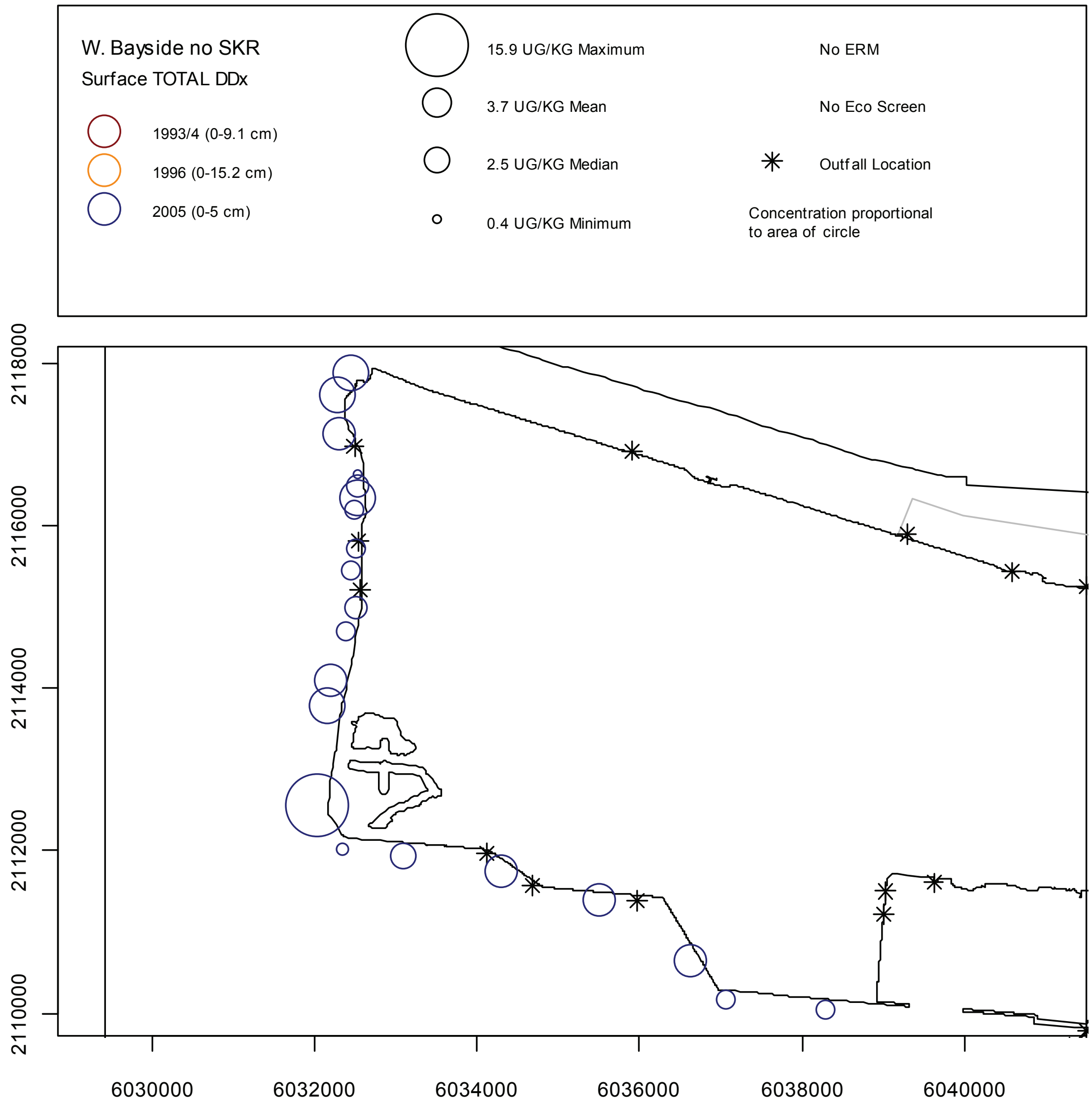


Figure A–203. Bubble Plots of Total DDx in Western Bayside Surface Sediment by Year.

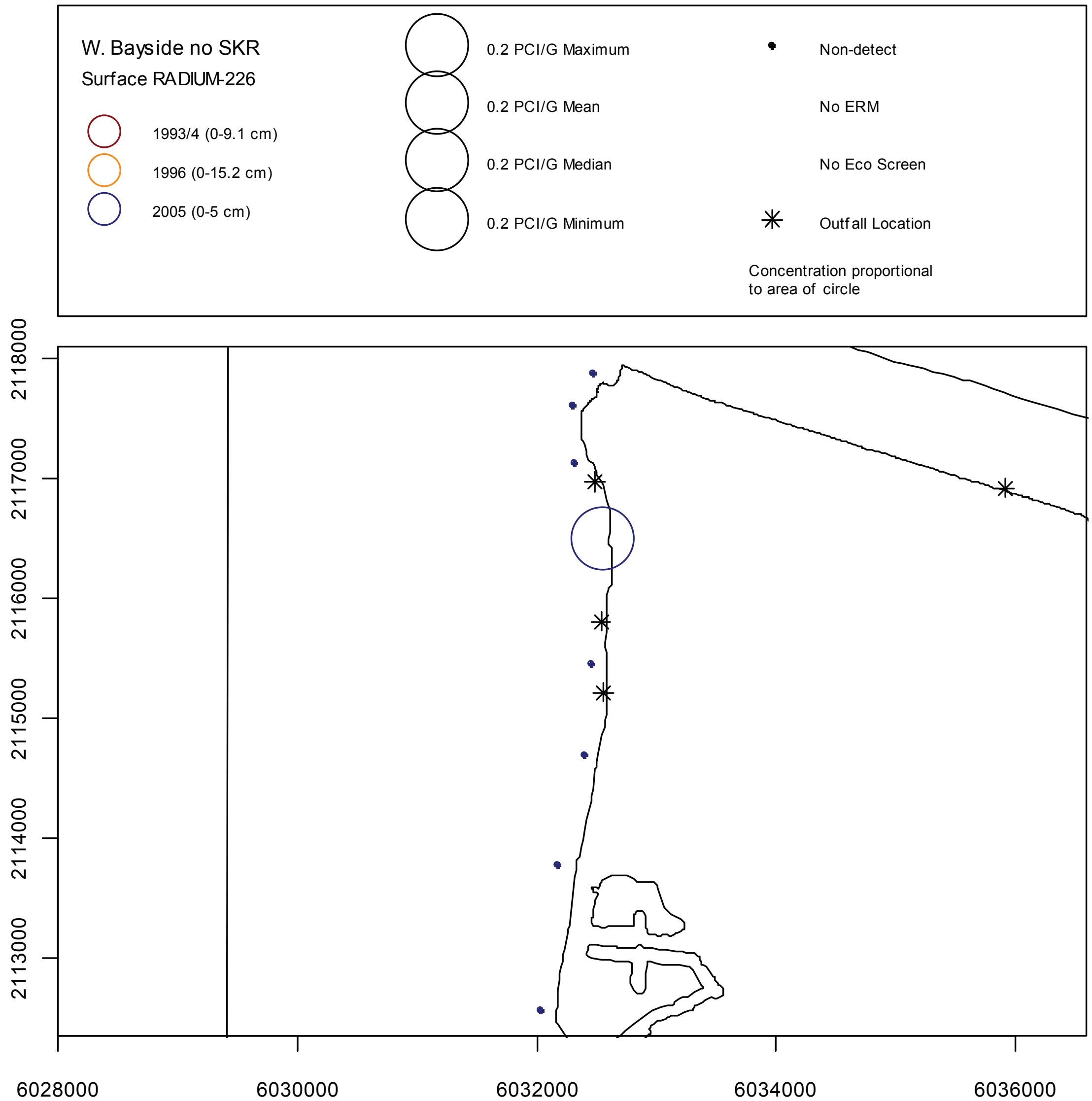


Figure A–204. Bubble Plots of Radium 226 in Western Bayside Surface Sediment by Year.

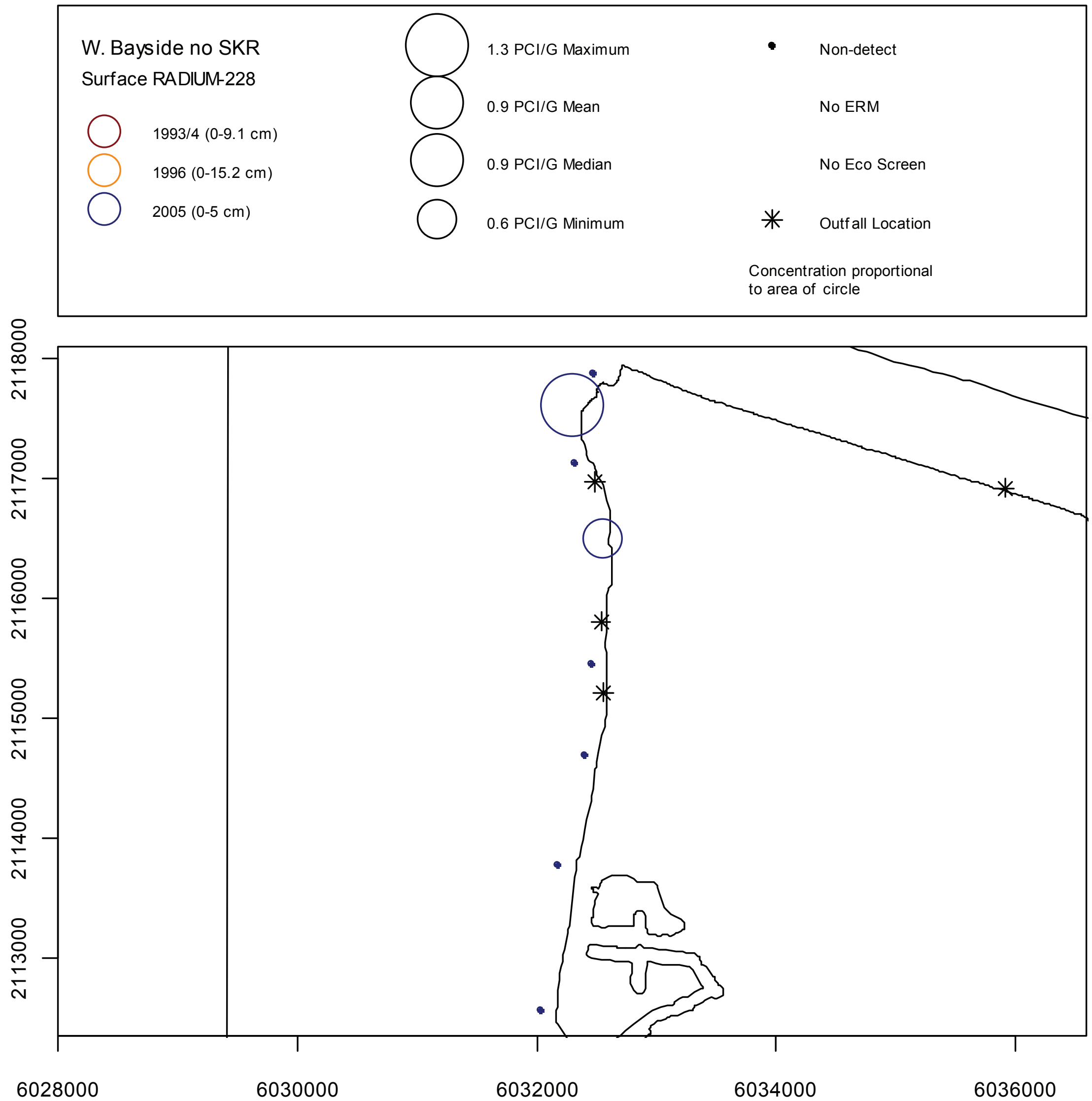


Figure A–205. Bubble Plots of Radium 228 in Western Bayside Surface Sediment by Year.

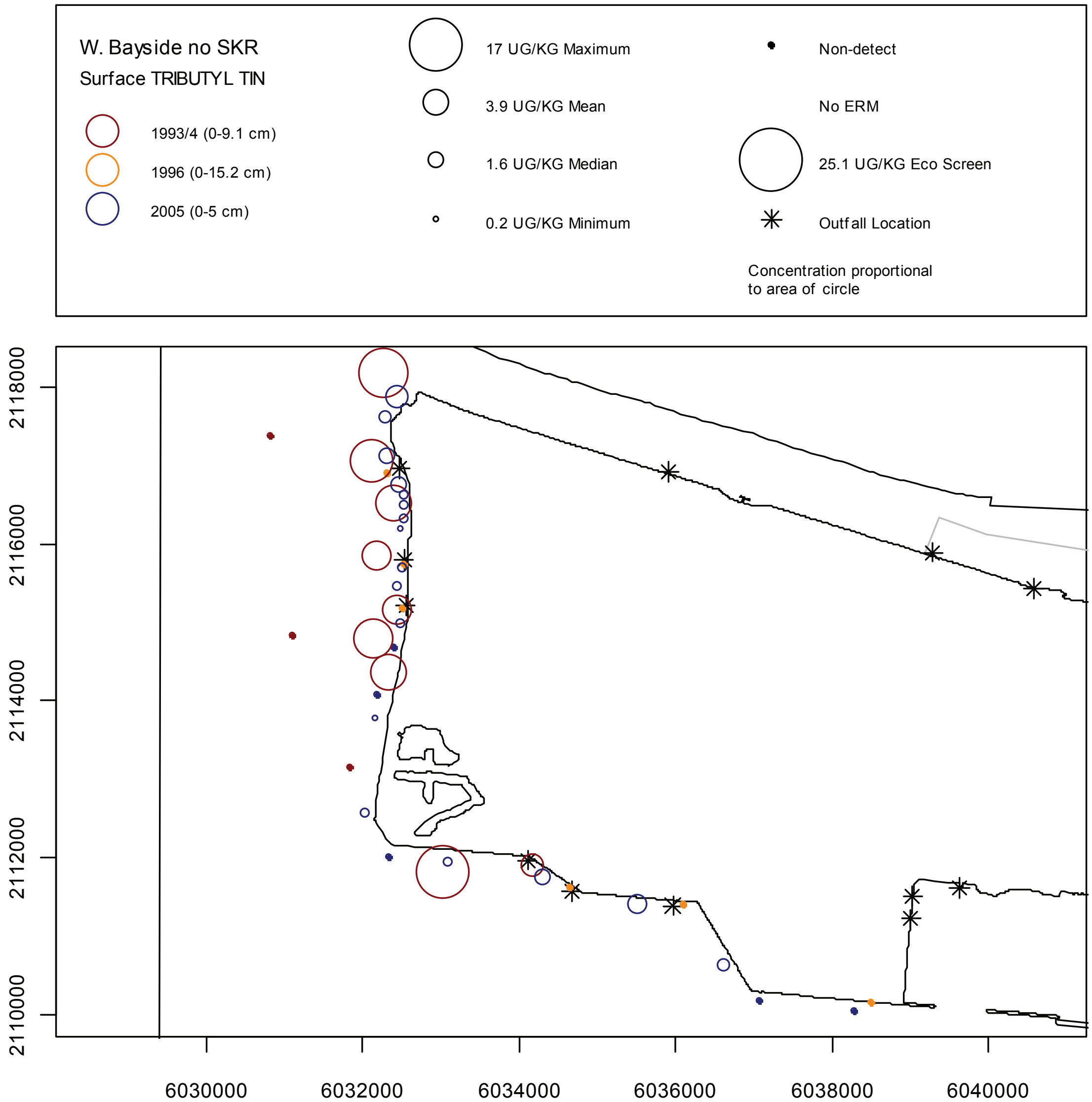


Figure A–206. Bubble Plots of Tributyl Tin in Western Bayside Surface Sediment by Year.

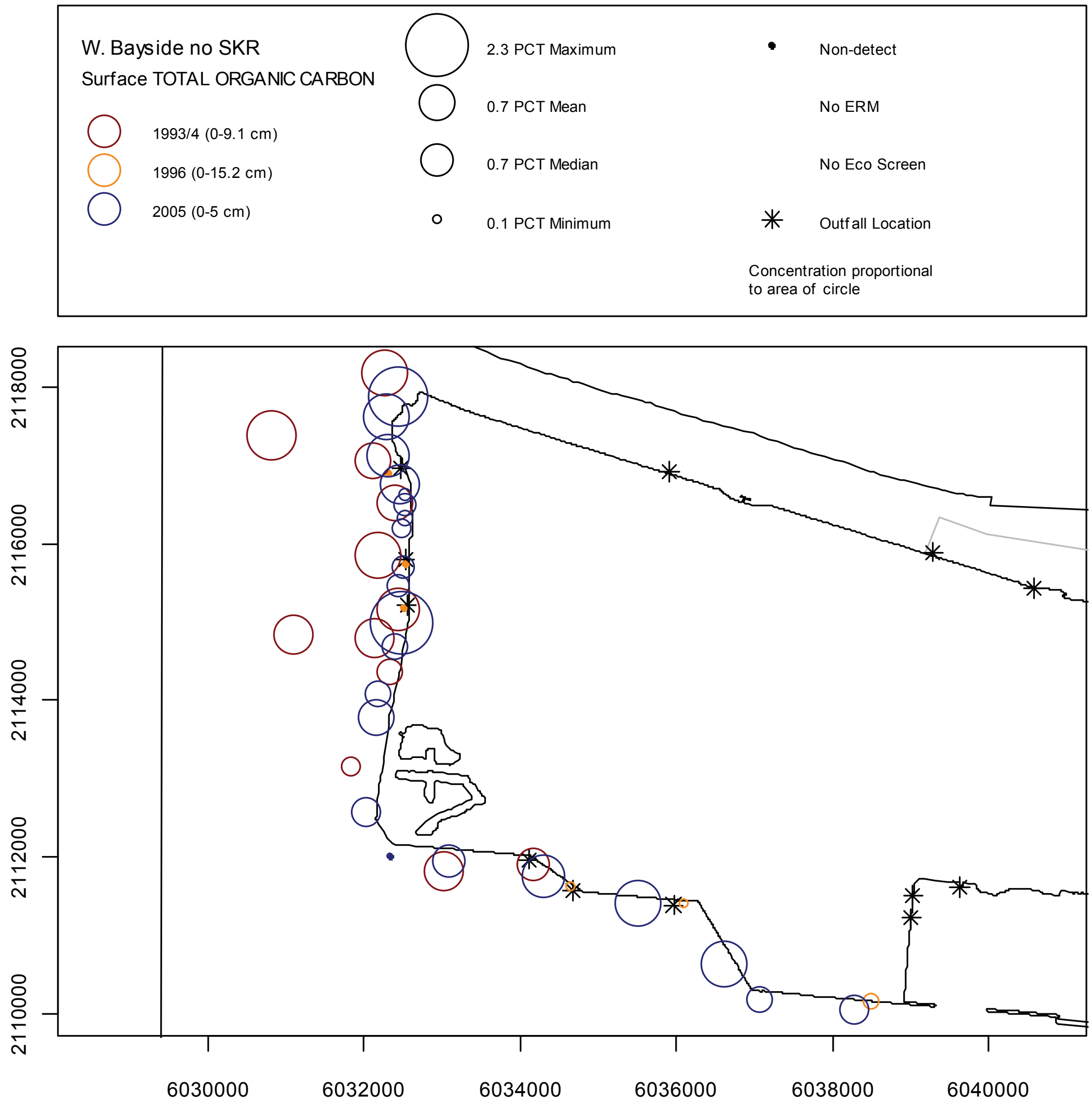


Figure A–207. Bubble Plots of Total Organic Carbon in Western Bayside Surface Sediment by Year.

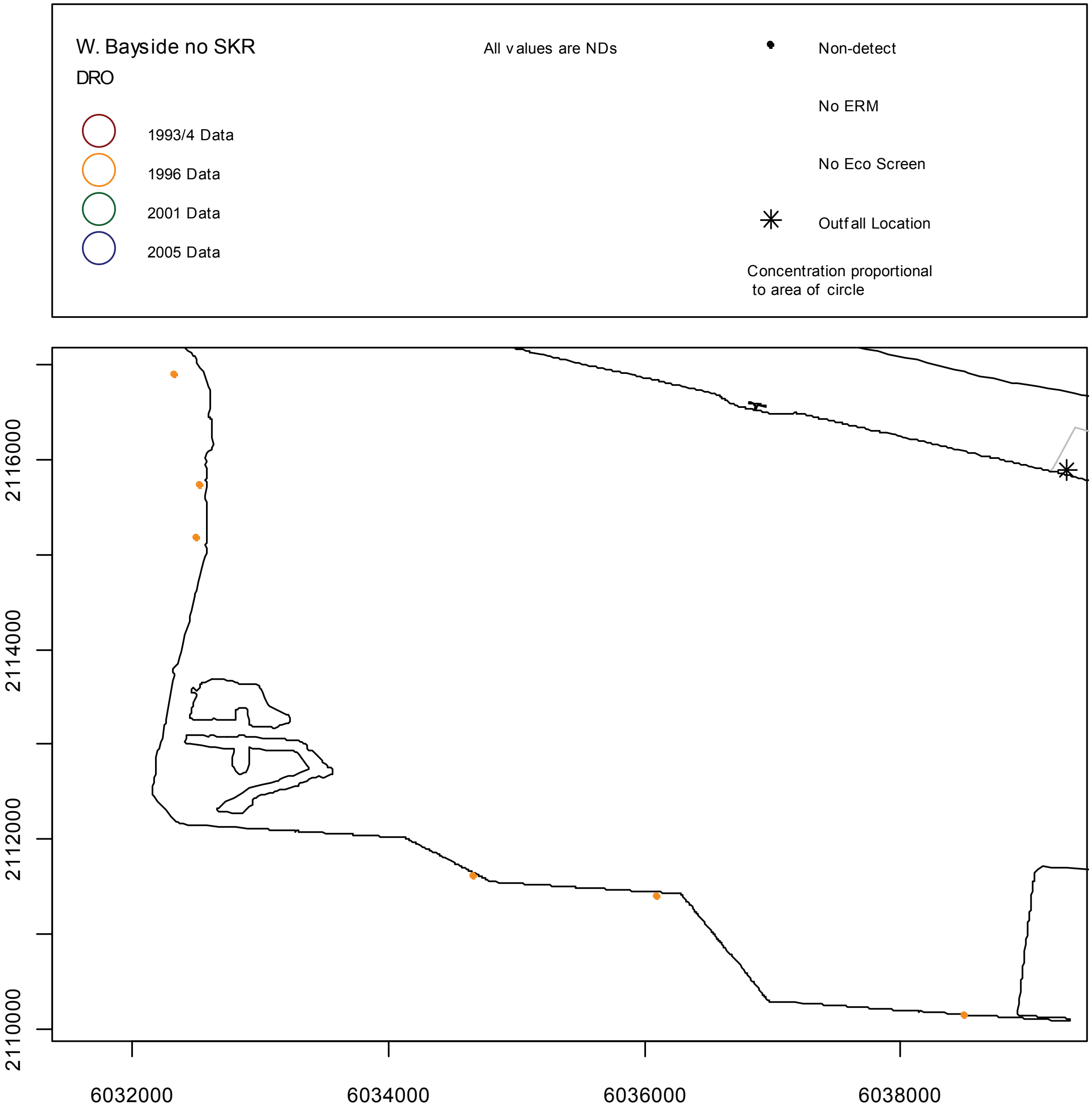


Figure A–208. Bubble Plots of DRO in Western Bayside Surface Sediment by Year.

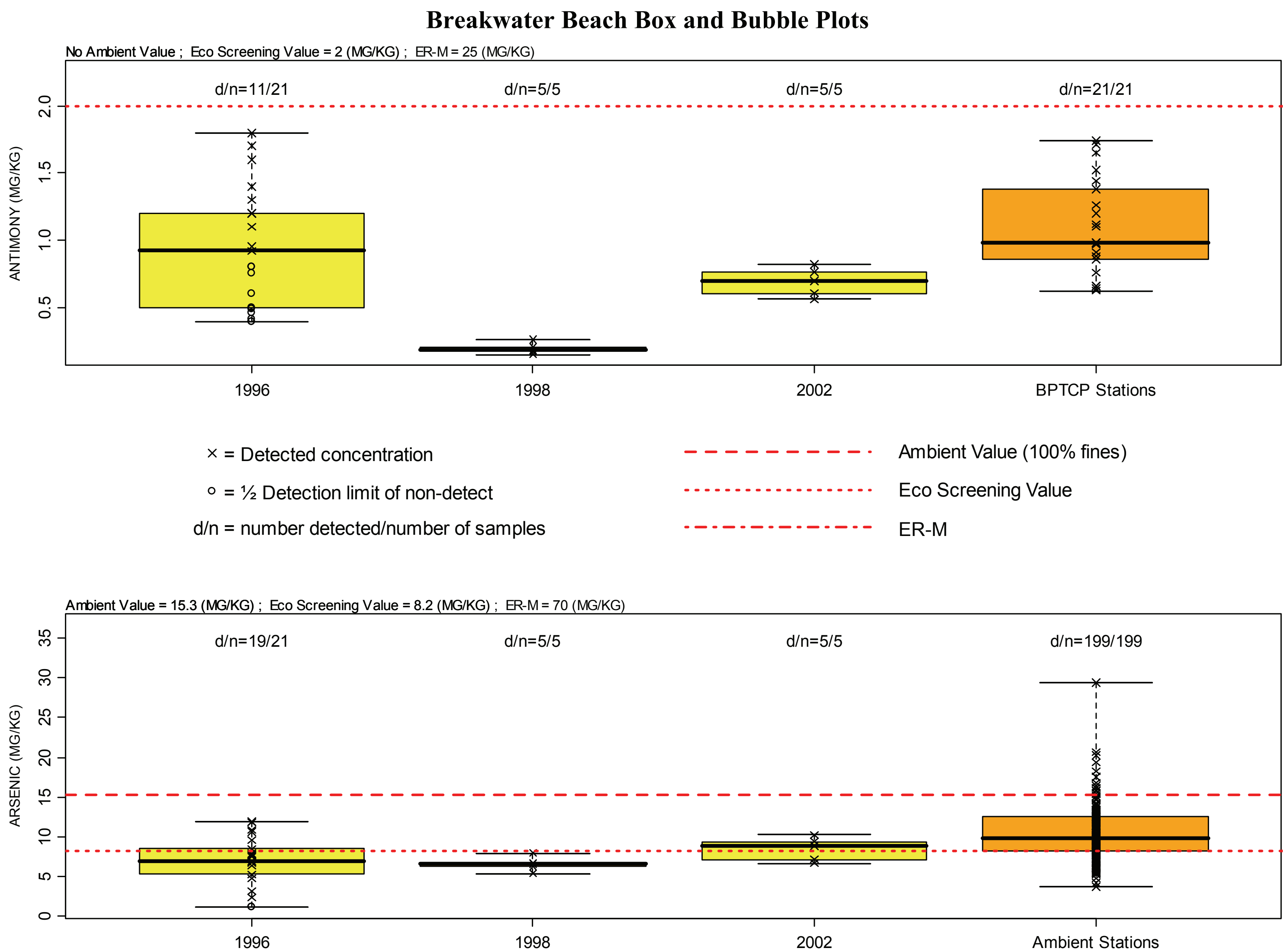


Figure A–209. Box Plots of Antimony and Arsenic in Breakwater Beach Surface Sediment by Year.

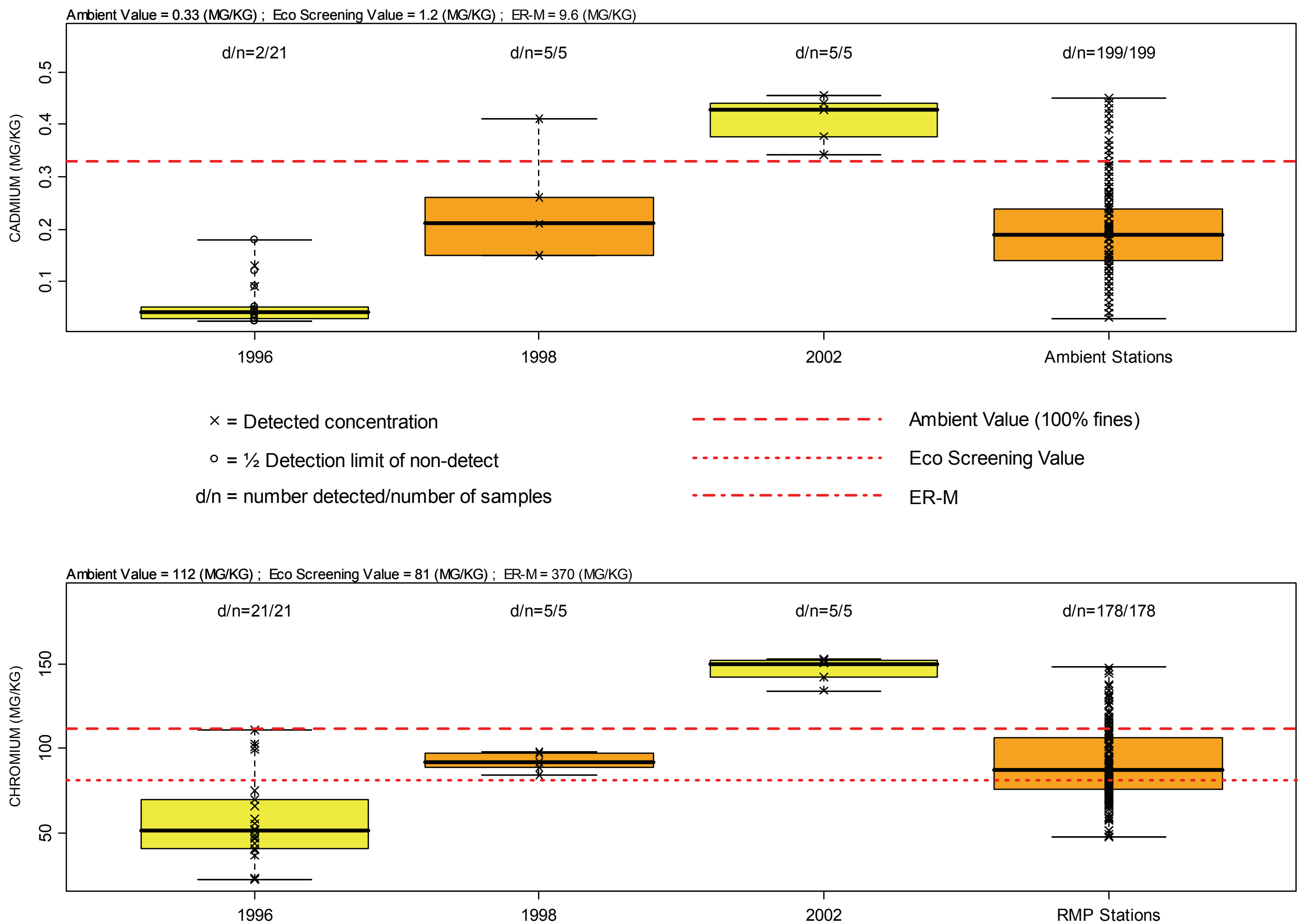


Figure A–210. Box Plots of Cadmium and Chromium in Breakwater Beach Surface Sediment by Year.

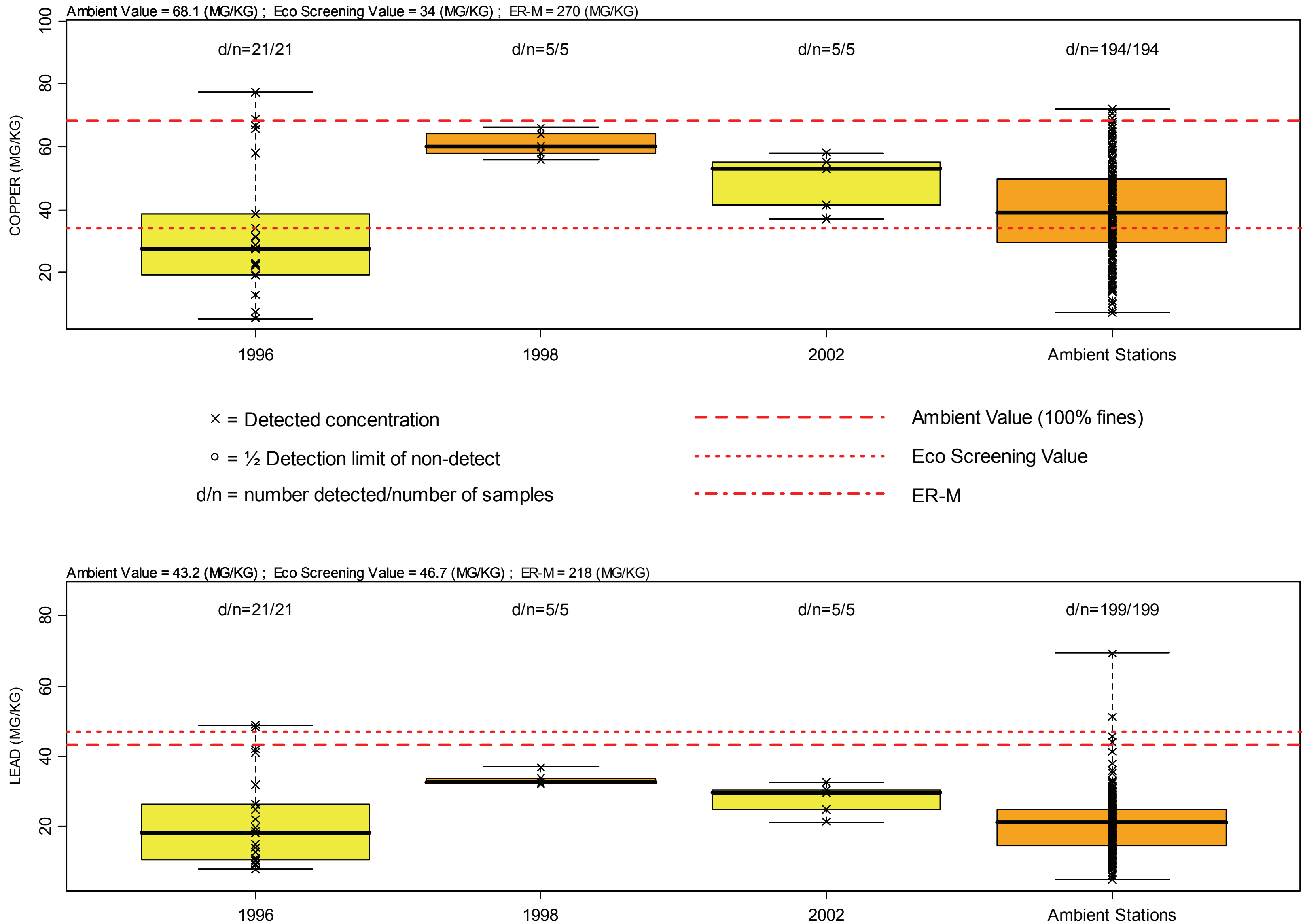


Figure A–211. Box Plots of Copper and Lead in Breakwater Beach Surface Sediment by Year.

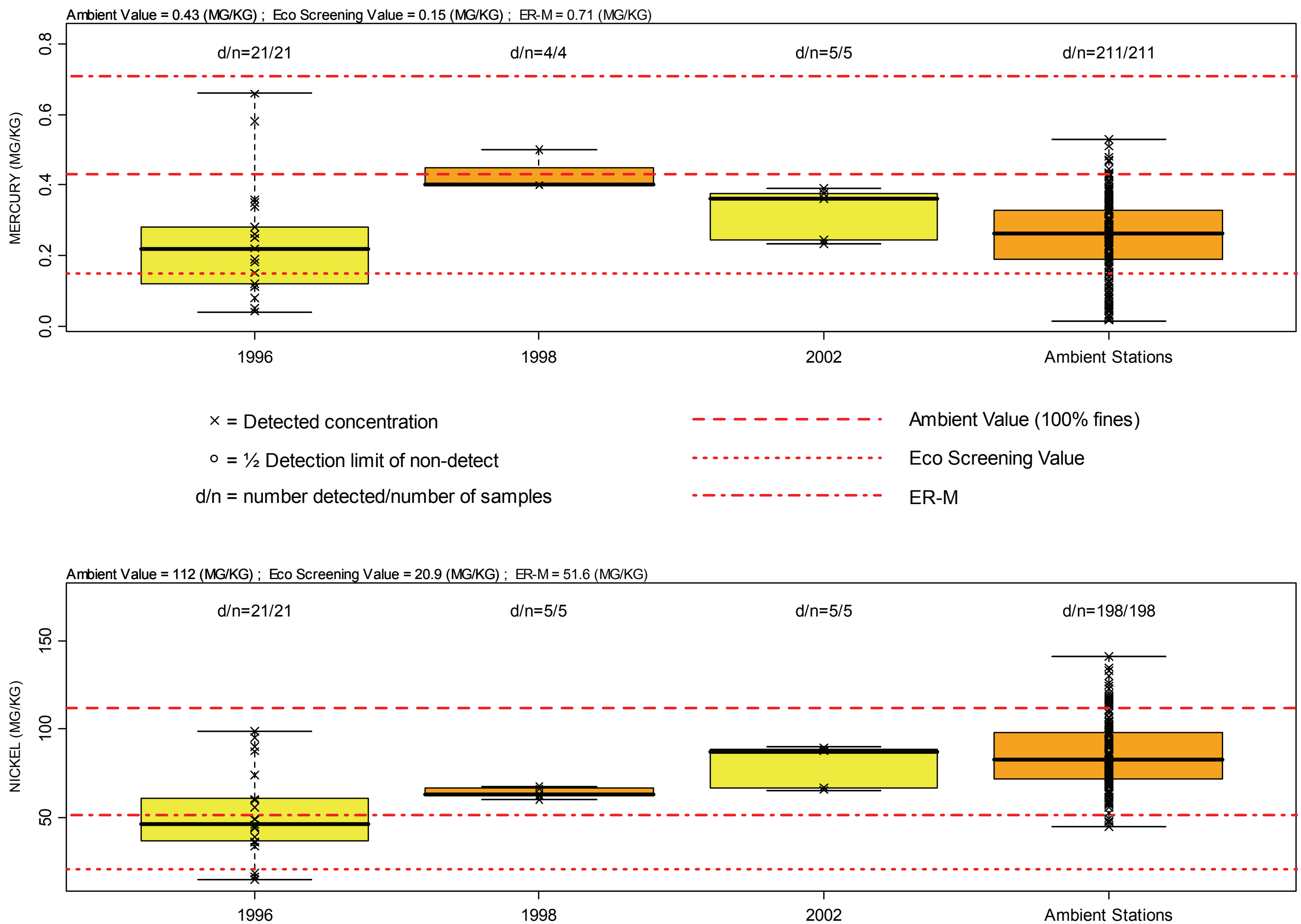


Figure A–212. Box Plots of Mercury and Nickel in Breakwater Beach Surface Sediment by Year.

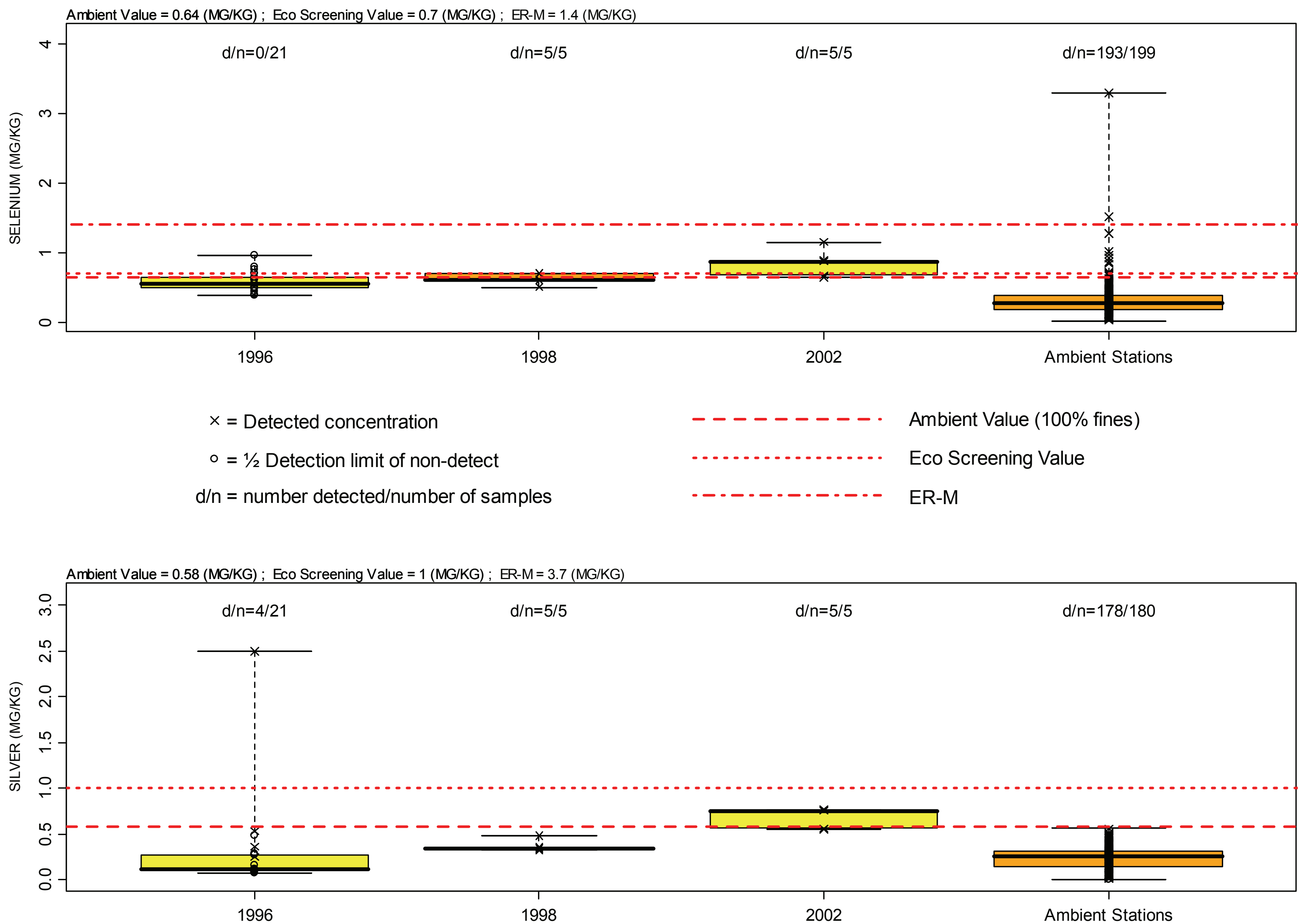


Figure A–213. Box Plots of Selenium and Silver in Breakwater Beach Surface Sediment by Year.

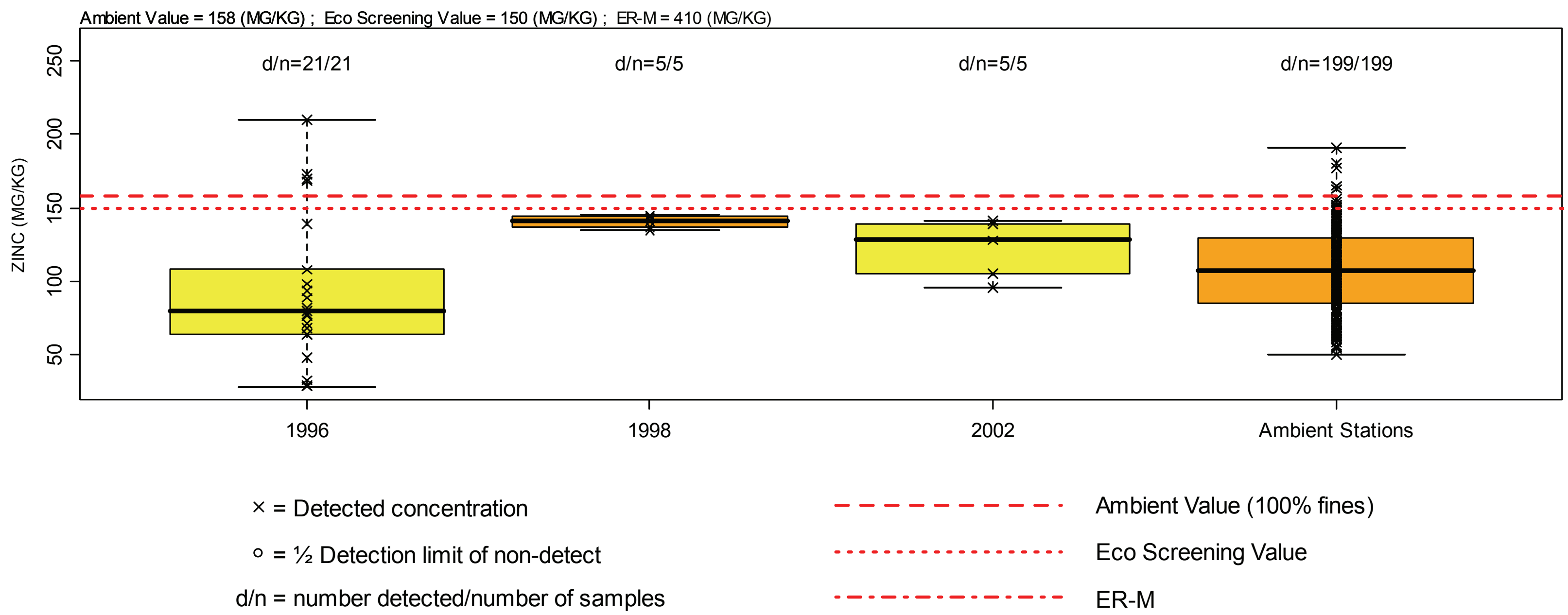


Figure A–214. Box Plots of Zinc in Breakwater Beach Surface Sediment by Year.

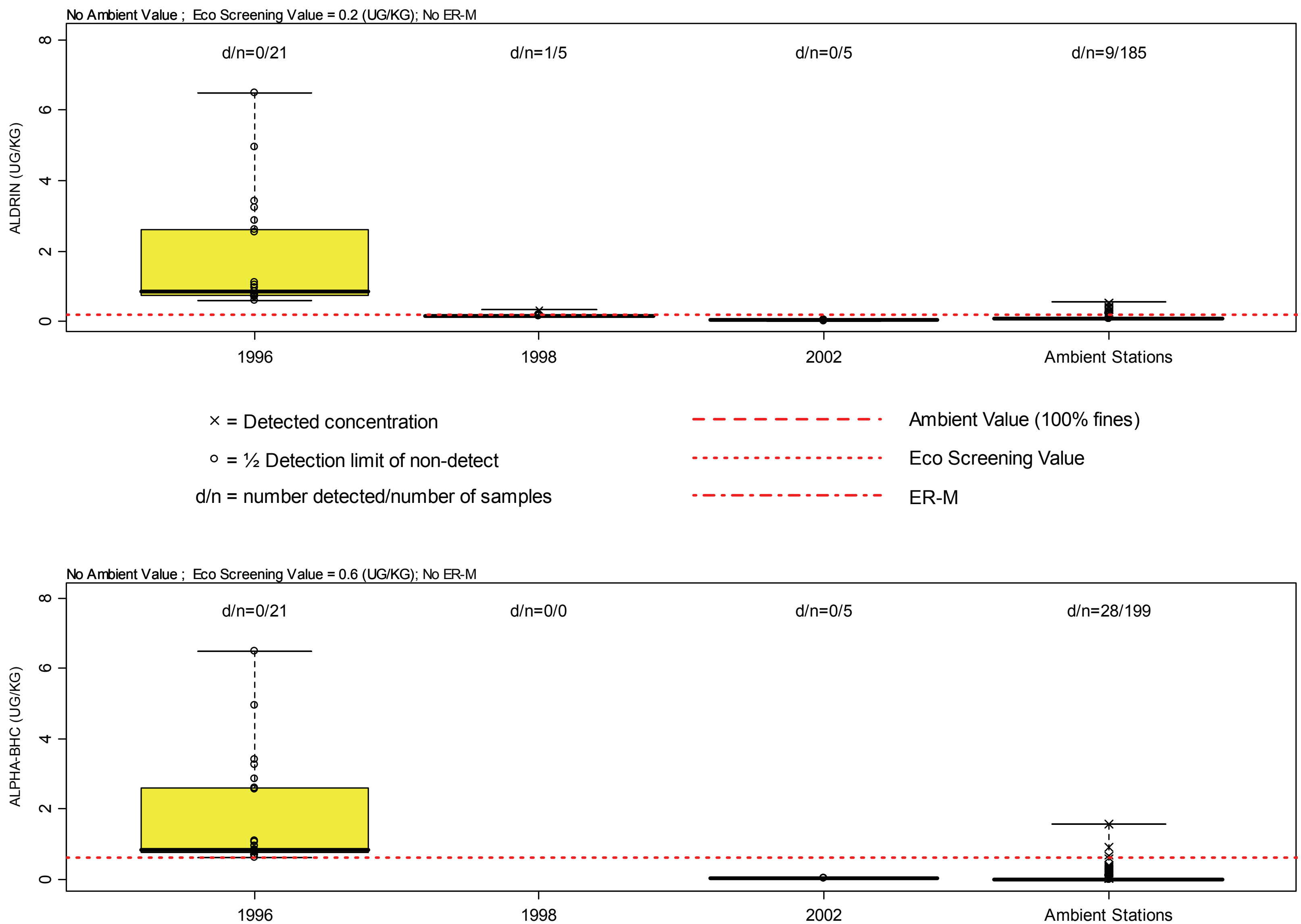
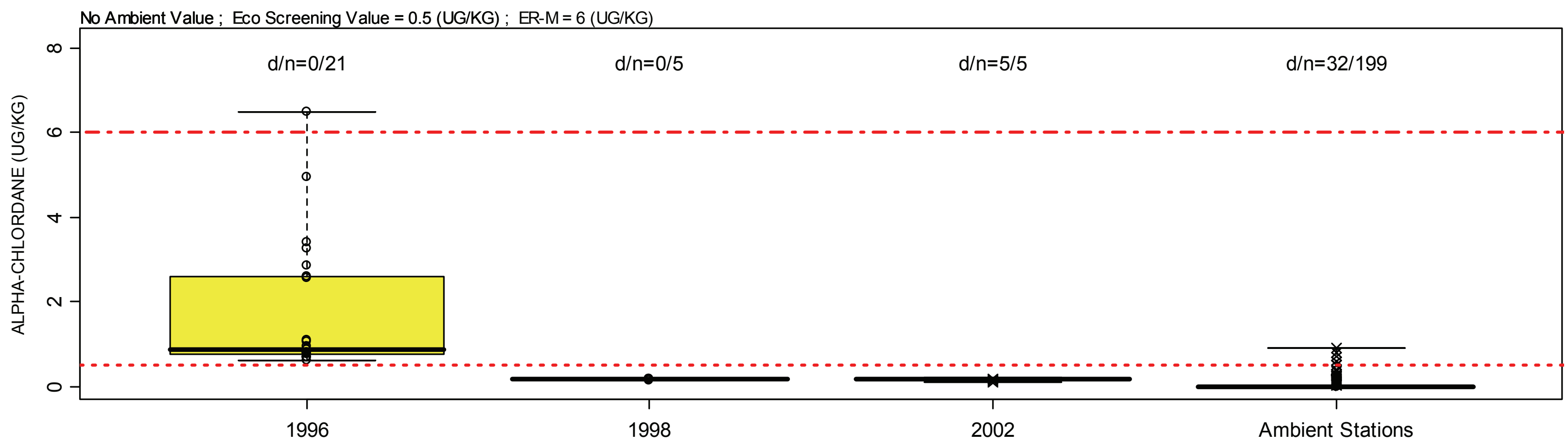


Figure A–215. Box Plots of Aldrin and *alpha*-BHC in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

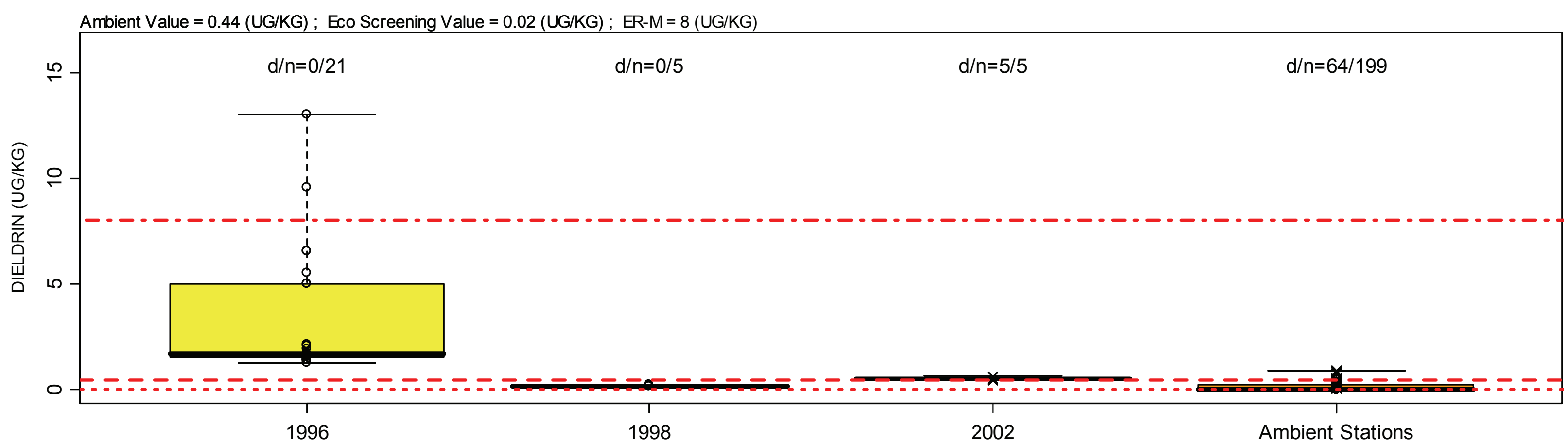
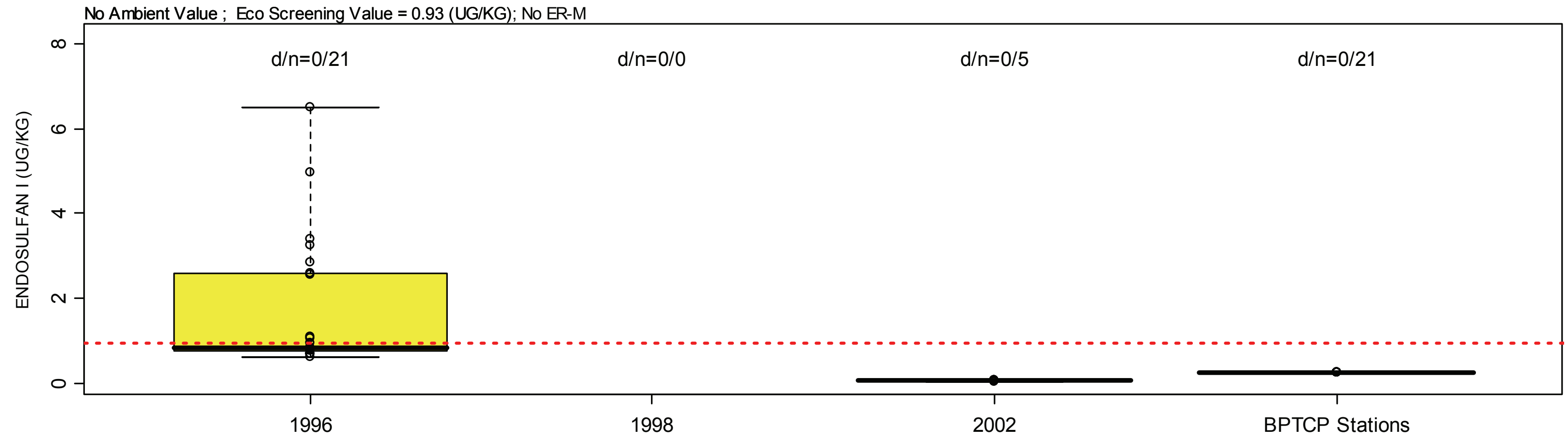


Figure A–216. Box Plots of *alpha*-Chlordane and Dieldrin in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

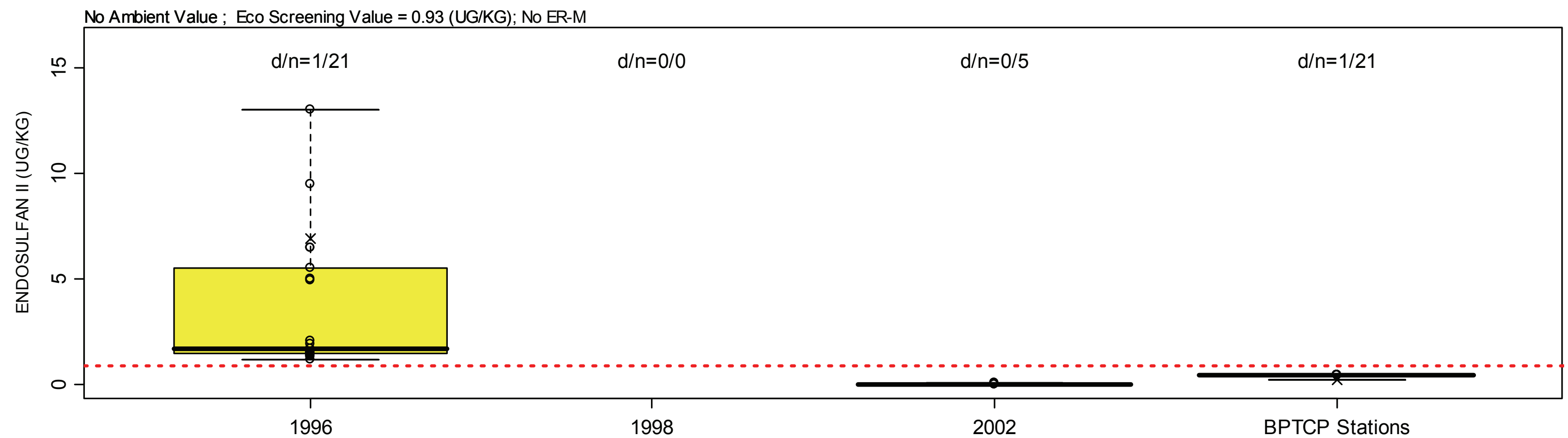


Figure A–217. Box Plots of Endosulfan I and Endosulfan II in Breakwater Beach Surface Sediment by Year.

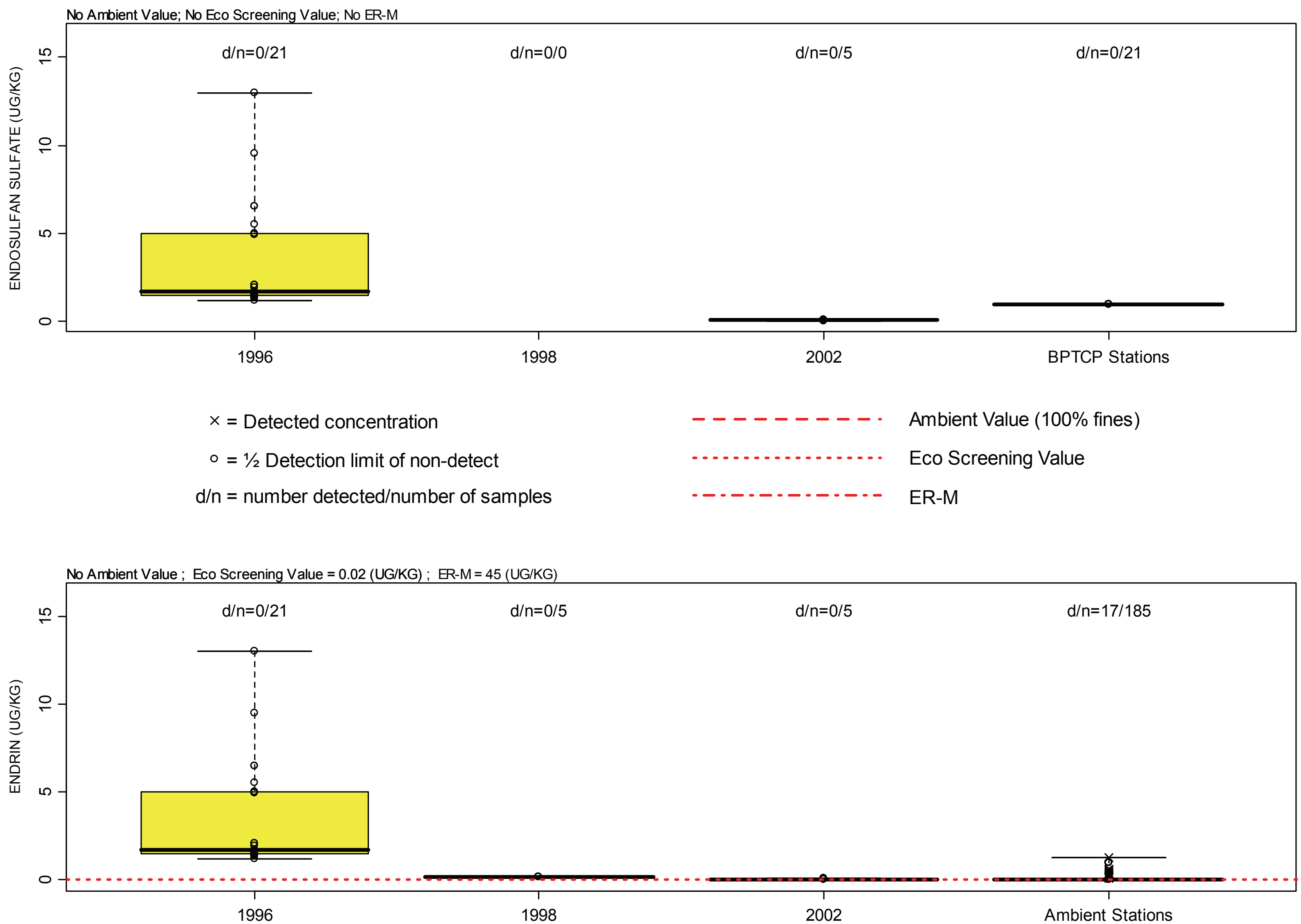
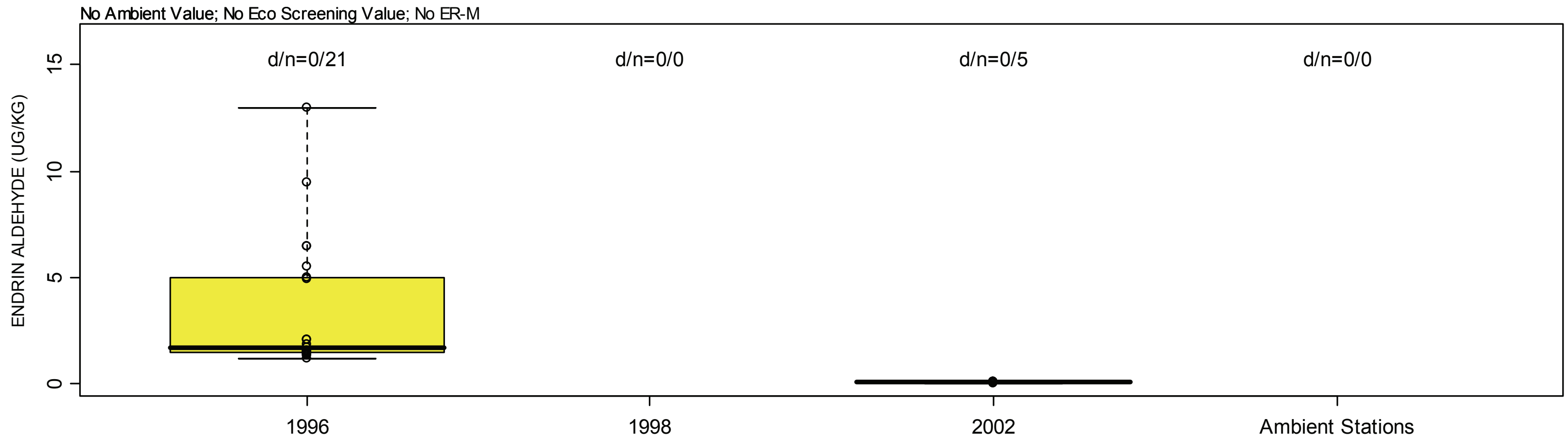


Figure A–218. Box Plots of Endosulfan Sulfate and Endrin in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

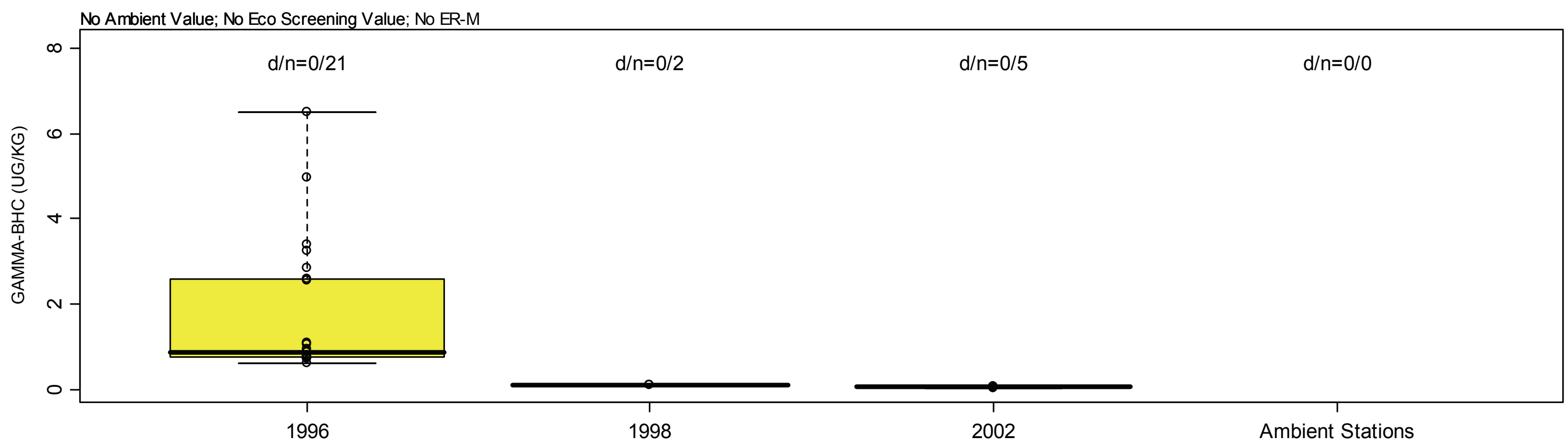


Figure A–219. Box Plots of Endrin Aldehyde and *gamma*-BHC in Breakwater Beach Surface Sediment by Year.

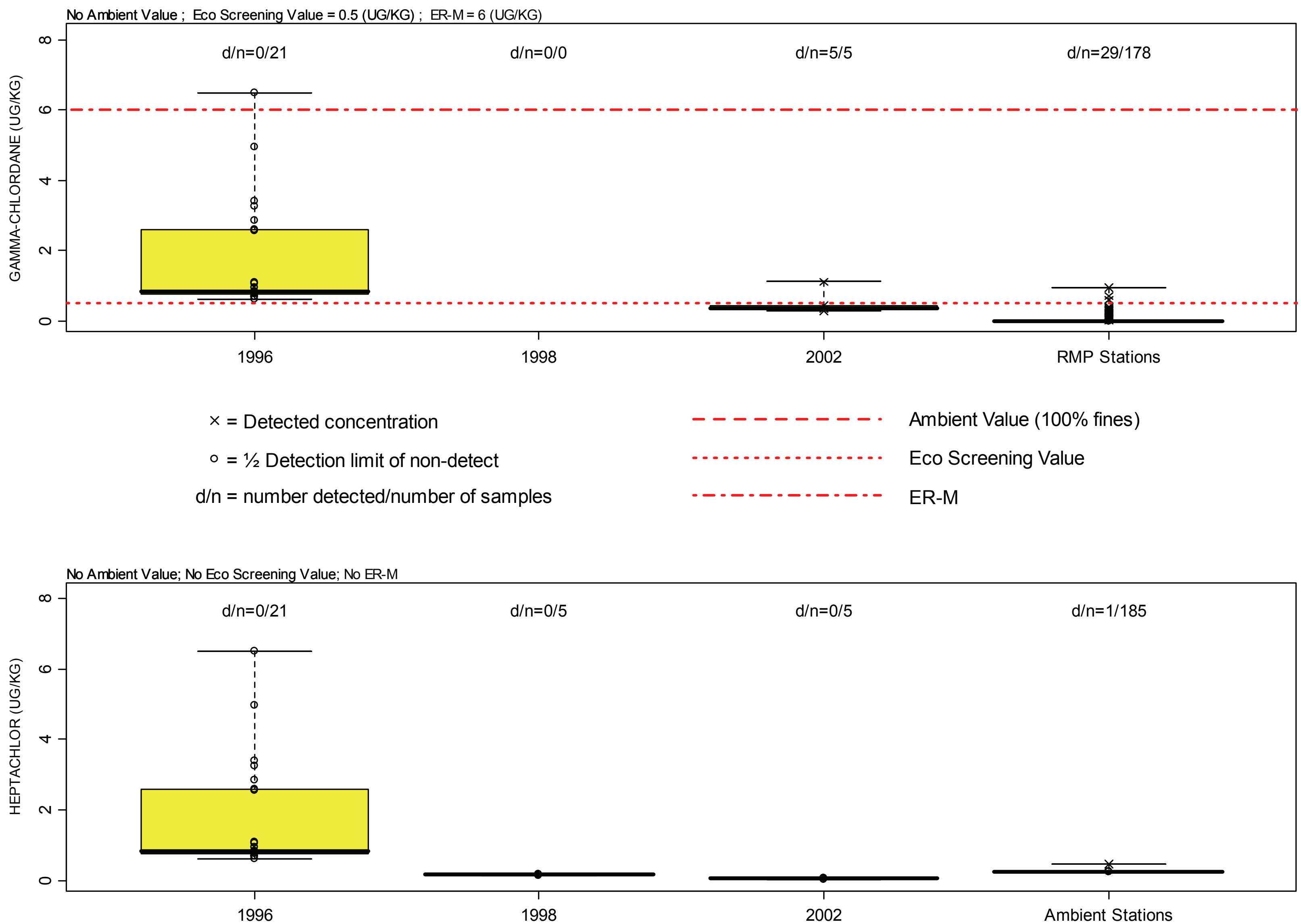


Figure A–220. Box Plots of *gamma*-Chlordane and Heptachlor in Breakwater Beach Surface Sediment by Year.

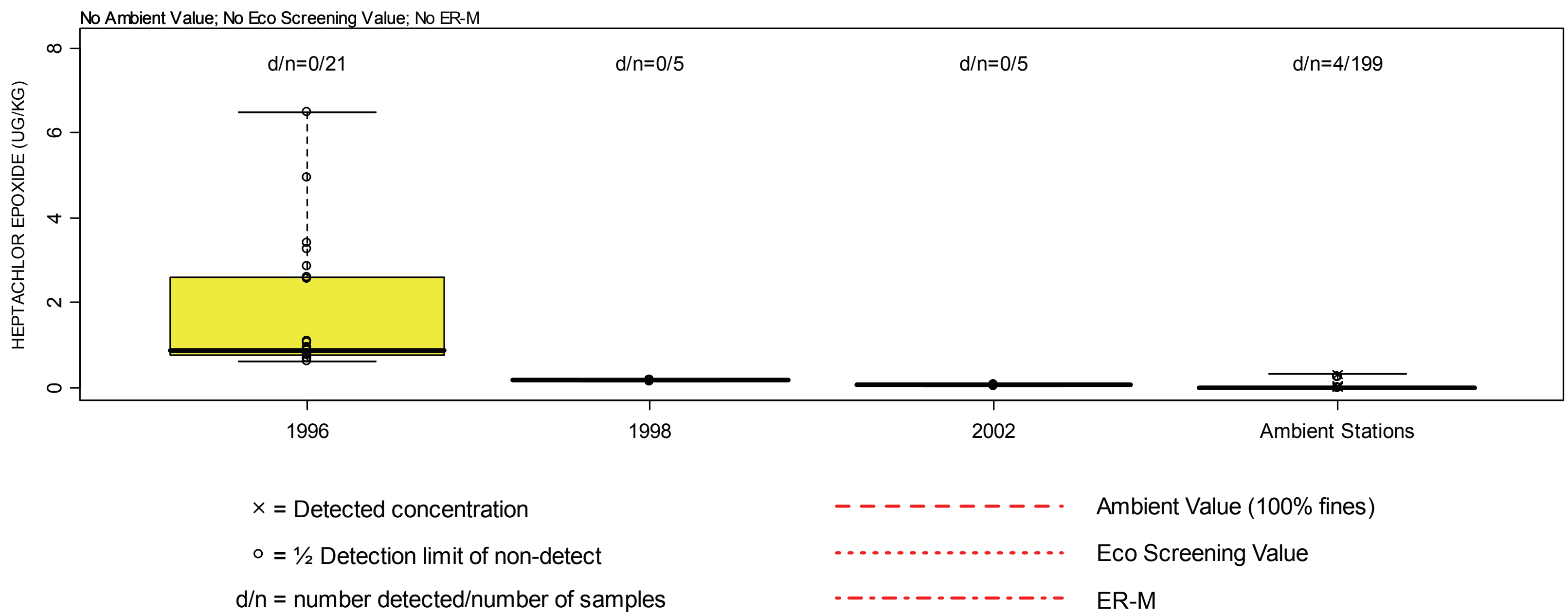


Figure A-221. Box Plots of Heptachlor Epoxide in Breakwater Beach Surface Sediment by Year.

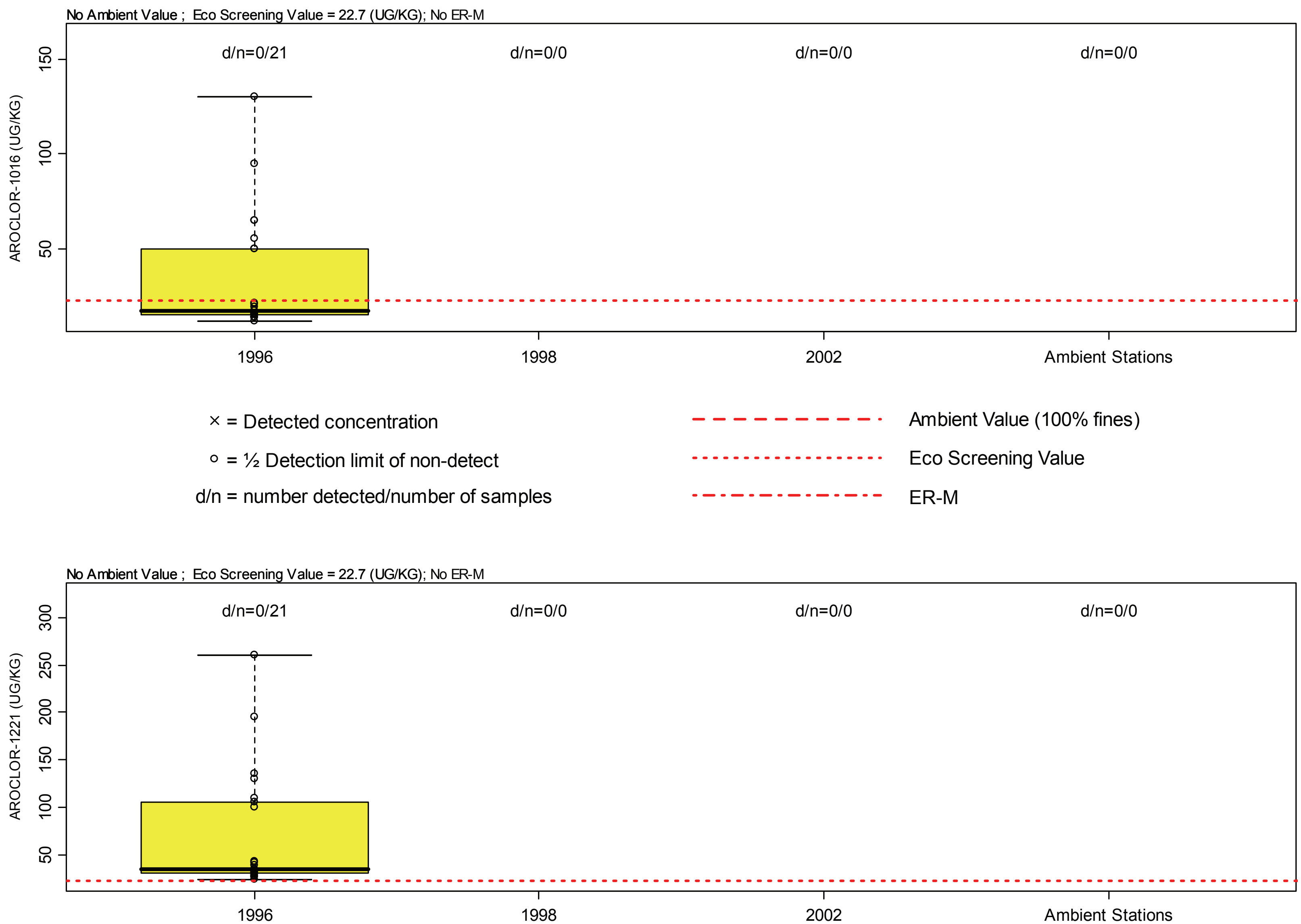
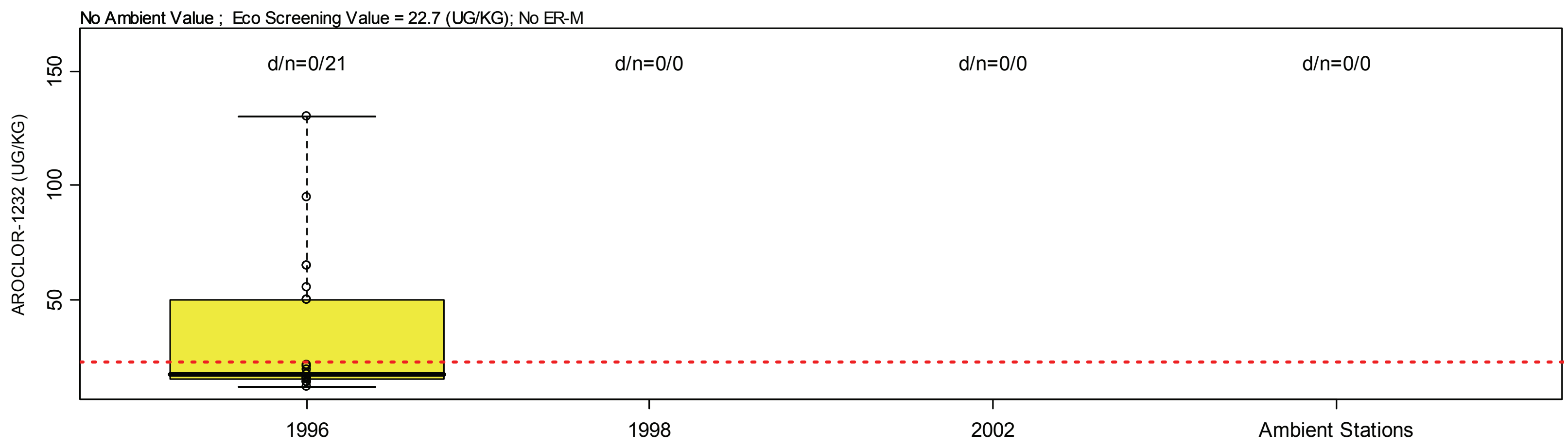


Figure A–222. Box Plots of Aroclor-1016 and Aroclor-1221 in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

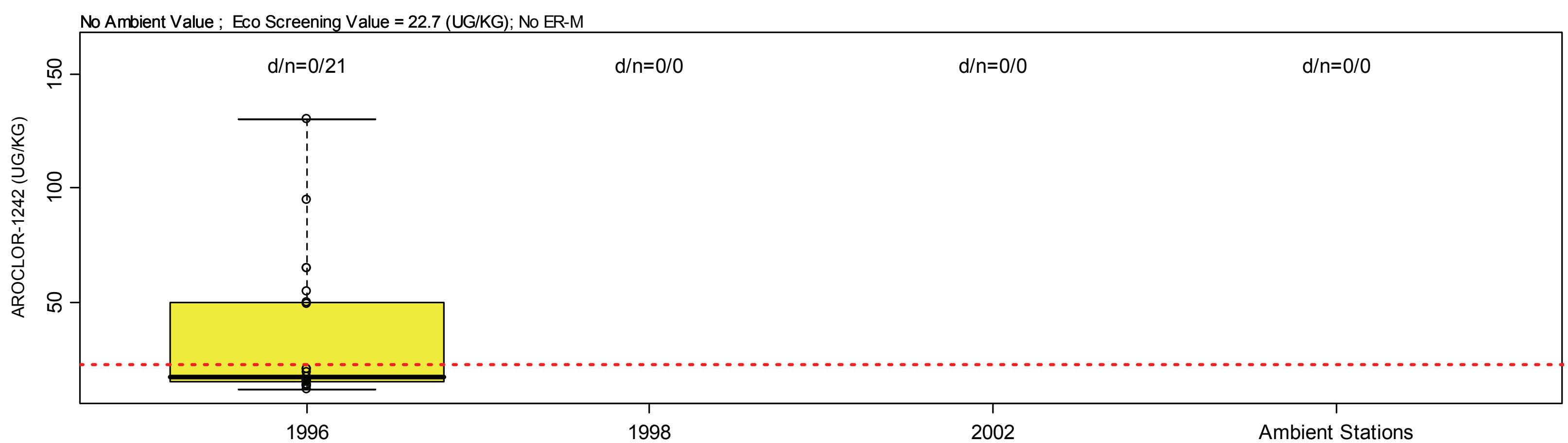


Figure A–223. Box Plots of Aroclor-1232 and Aroclor-1242 in Breakwater Beach Surface Sediment by Year.

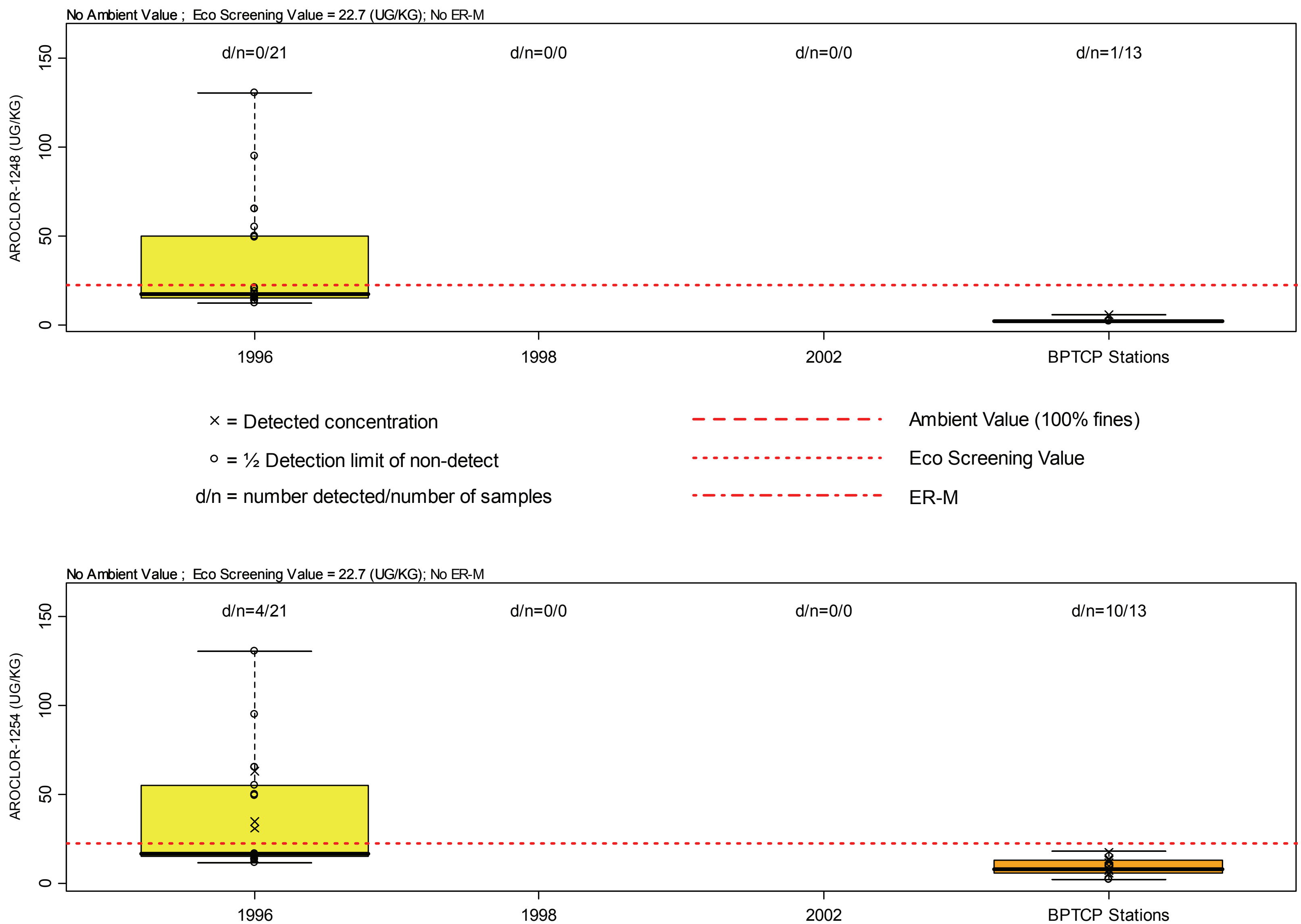


Figure A–224. Box Plots of Aroclor-1248 and Aroclor-1254 in Breakwater Beach Surface Sediment by Year.

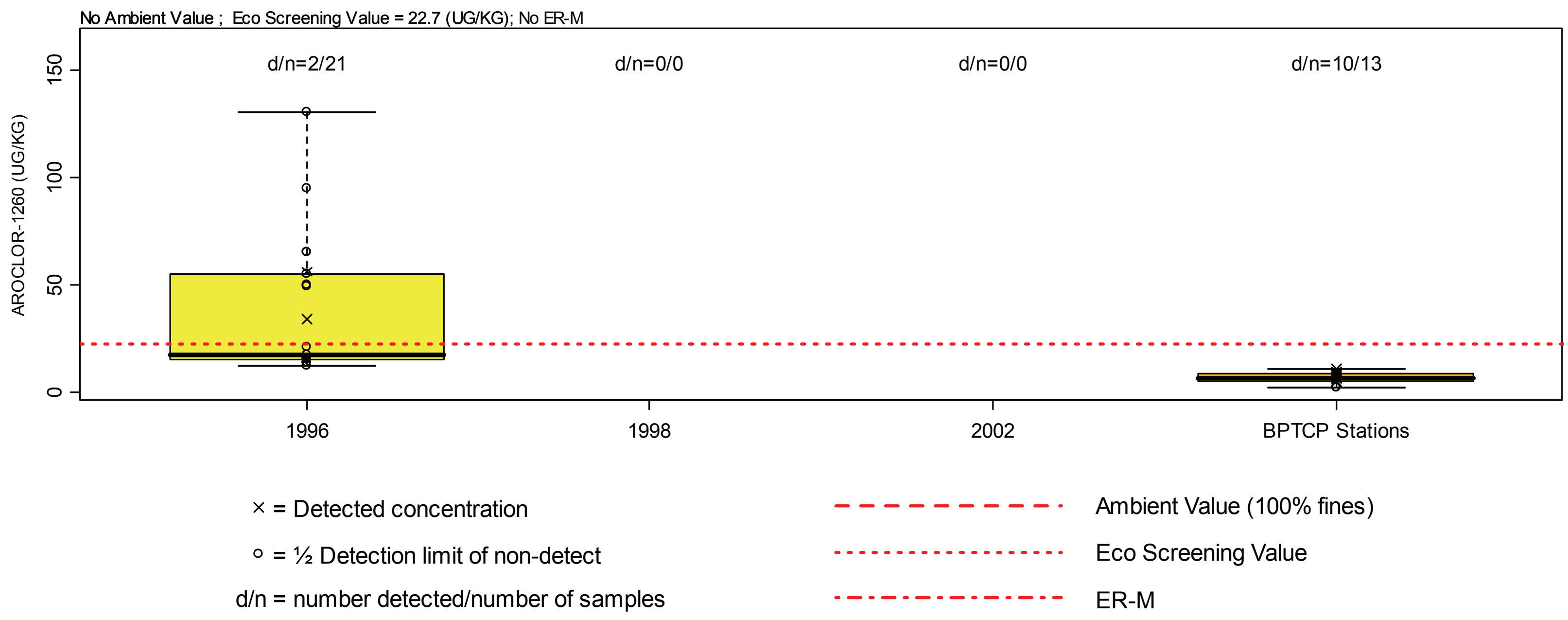


Figure A–225. Box Plots of Aroclor-1260 in Breakwater Beach Surface Sediment by Year.

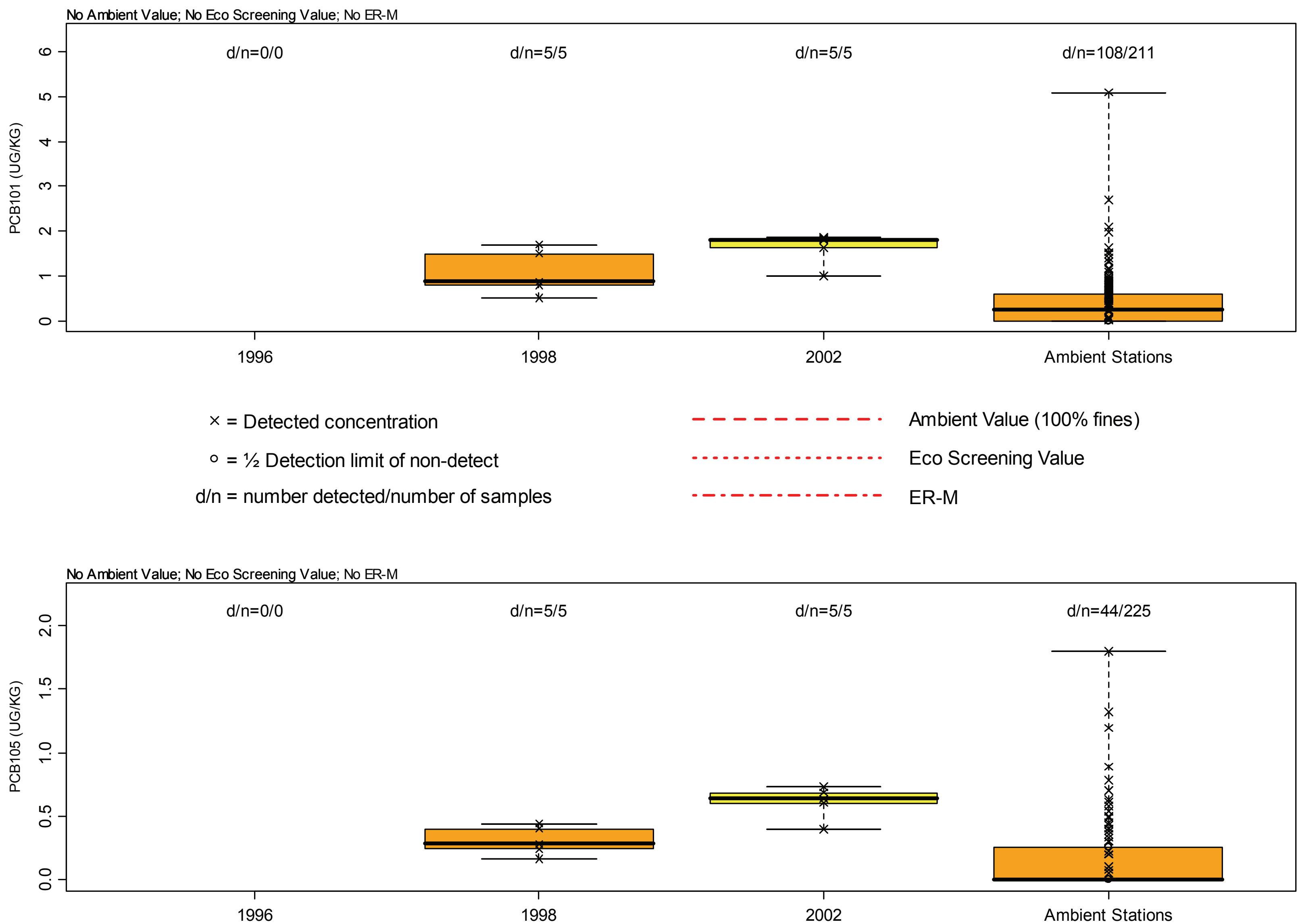


Figure A–226. Box Plots of PCB101 and PCB105 in Breakwater Beach Surface Sediment by Year.

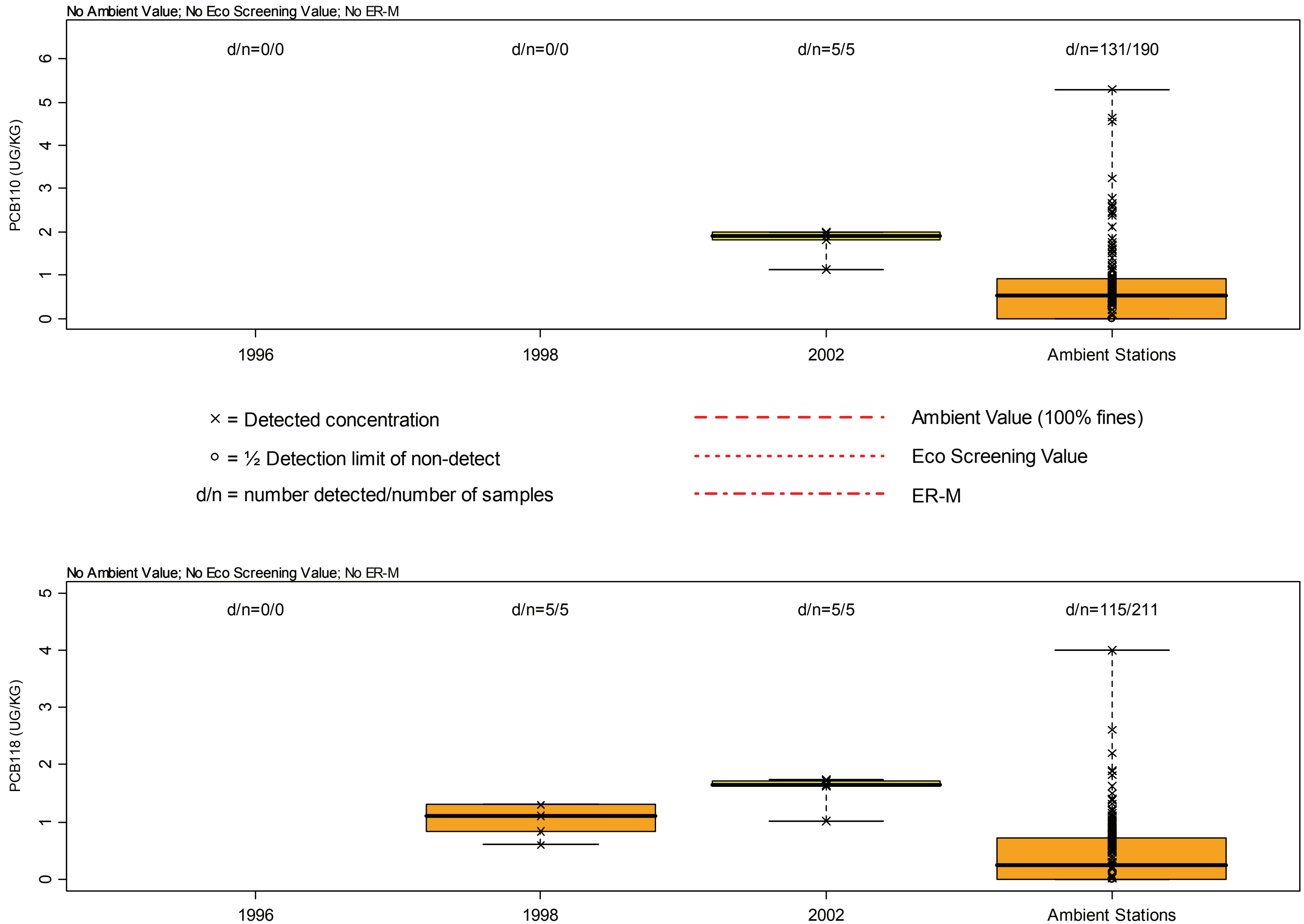


Figure A–227. Box Plots of PCB110 and PCB118 in Breakwater Beach Surface Sediment by Year.

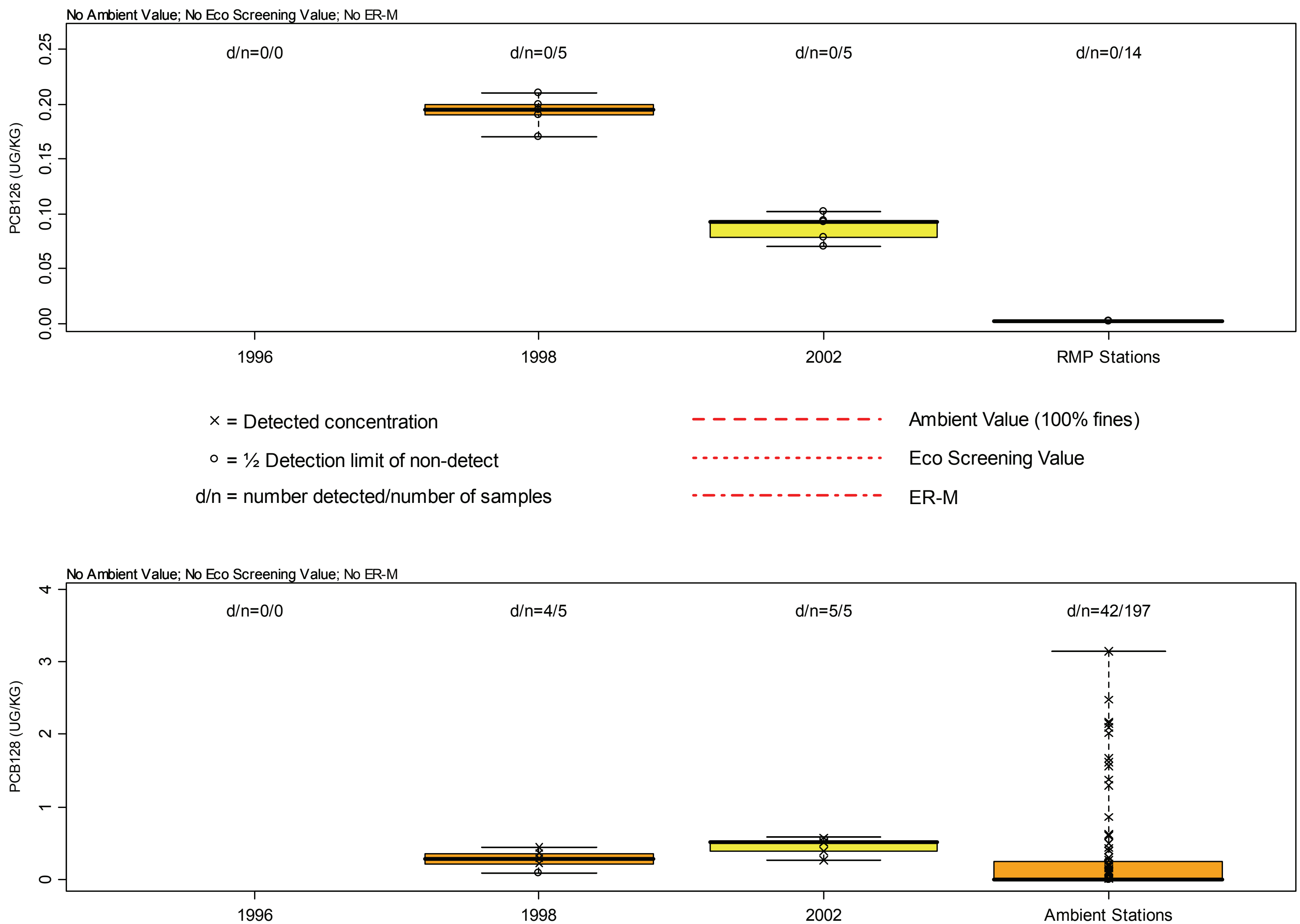


Figure A–228. Box Plots of PCB126 and PCB128 in Breakwater Beach Surface Sediment by Year.

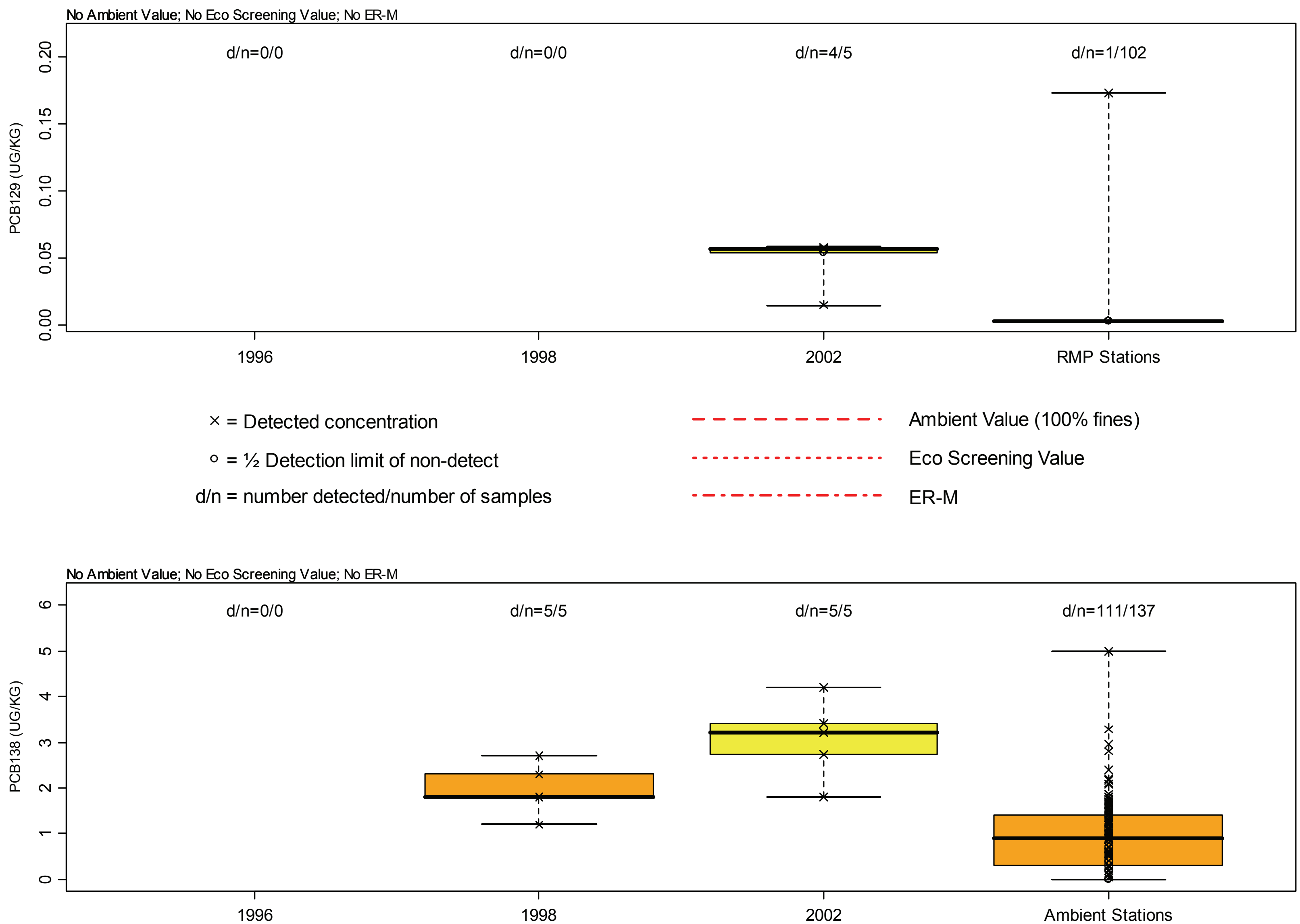


Figure A–229. Box Plots of PCB129 and PCB138 in Breakwater Beach Surface Sediment by Year.

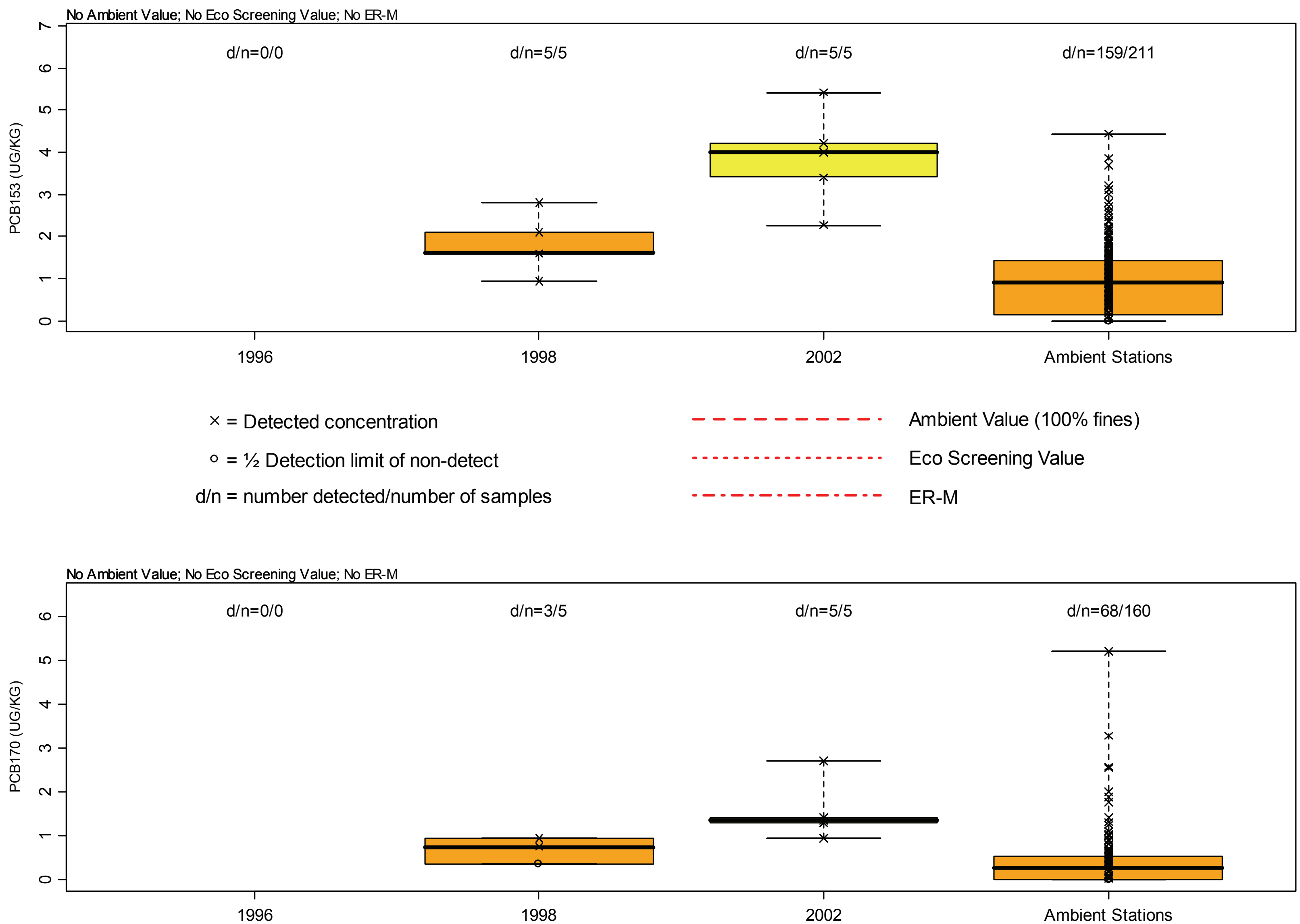


Figure A–230. Box Plots of PCB153 and PCB170 in Breakwater Beach Surface Sediment by Year.

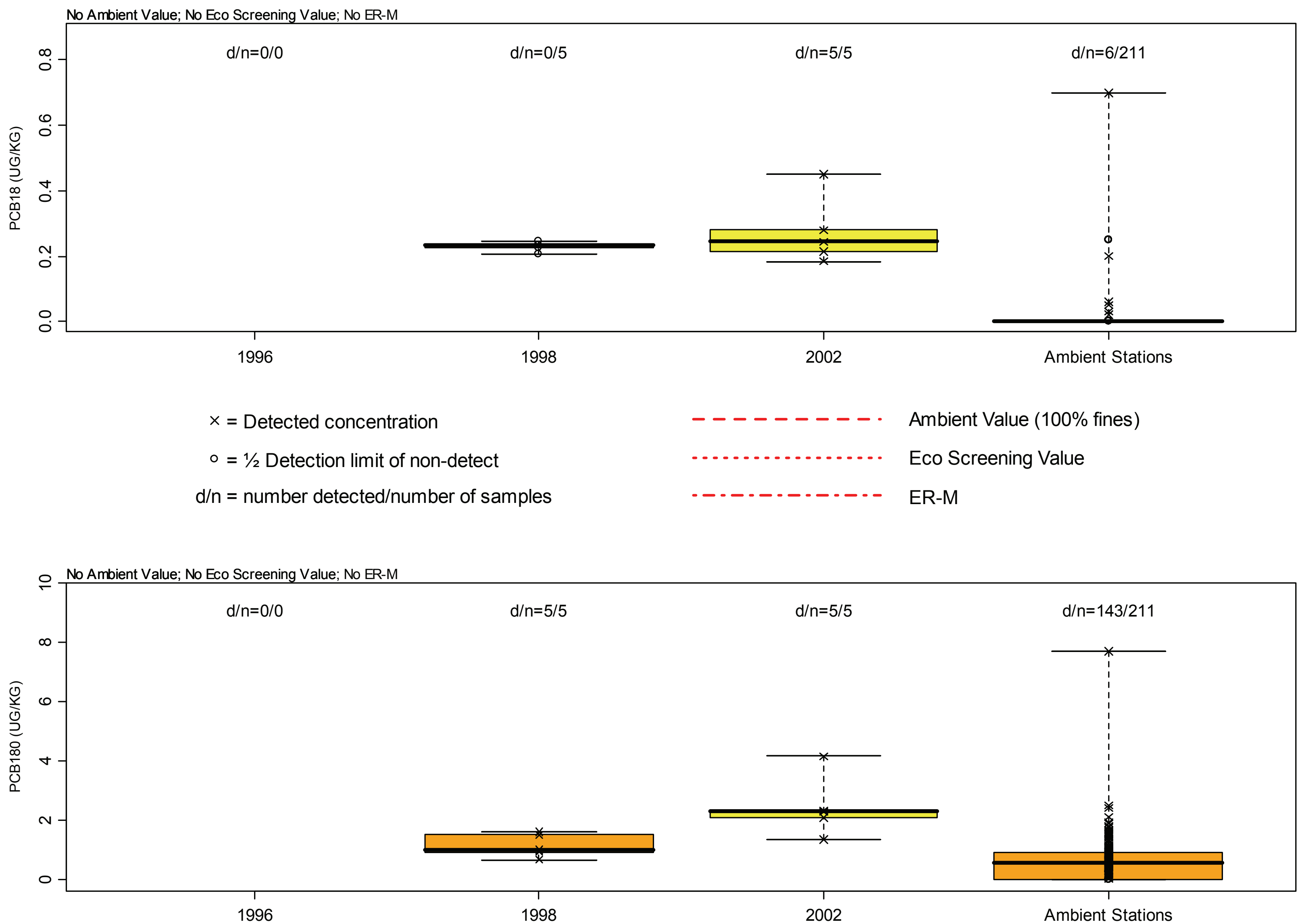


Figure A–231. Box Plots of PCB18 and PCB180 in Breakwater Beach Surface Sediment by Year.

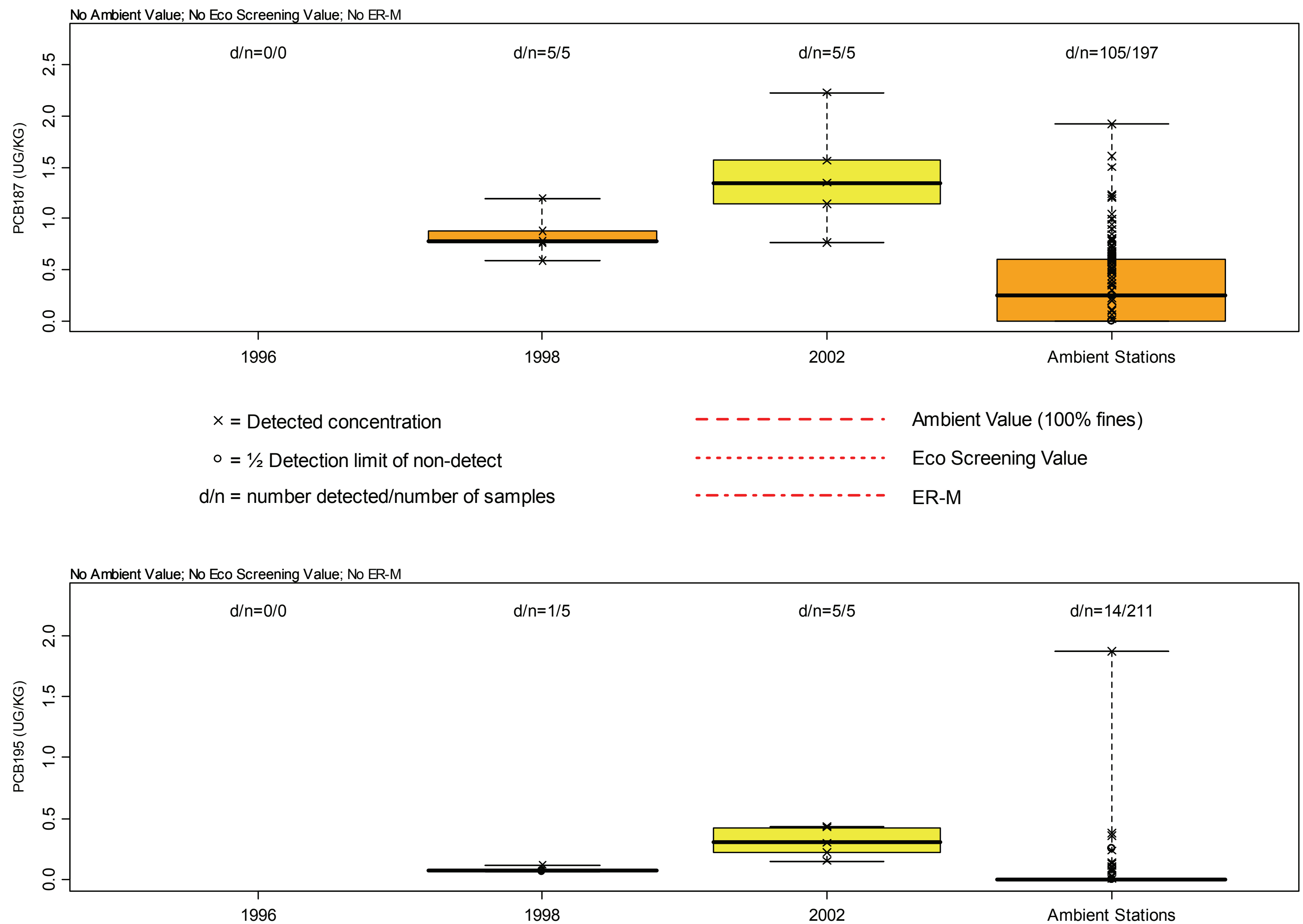


Figure A–232. Box Plots of PCB187 and PCB195 in Breakwater Beach Surface Sediment by Year.

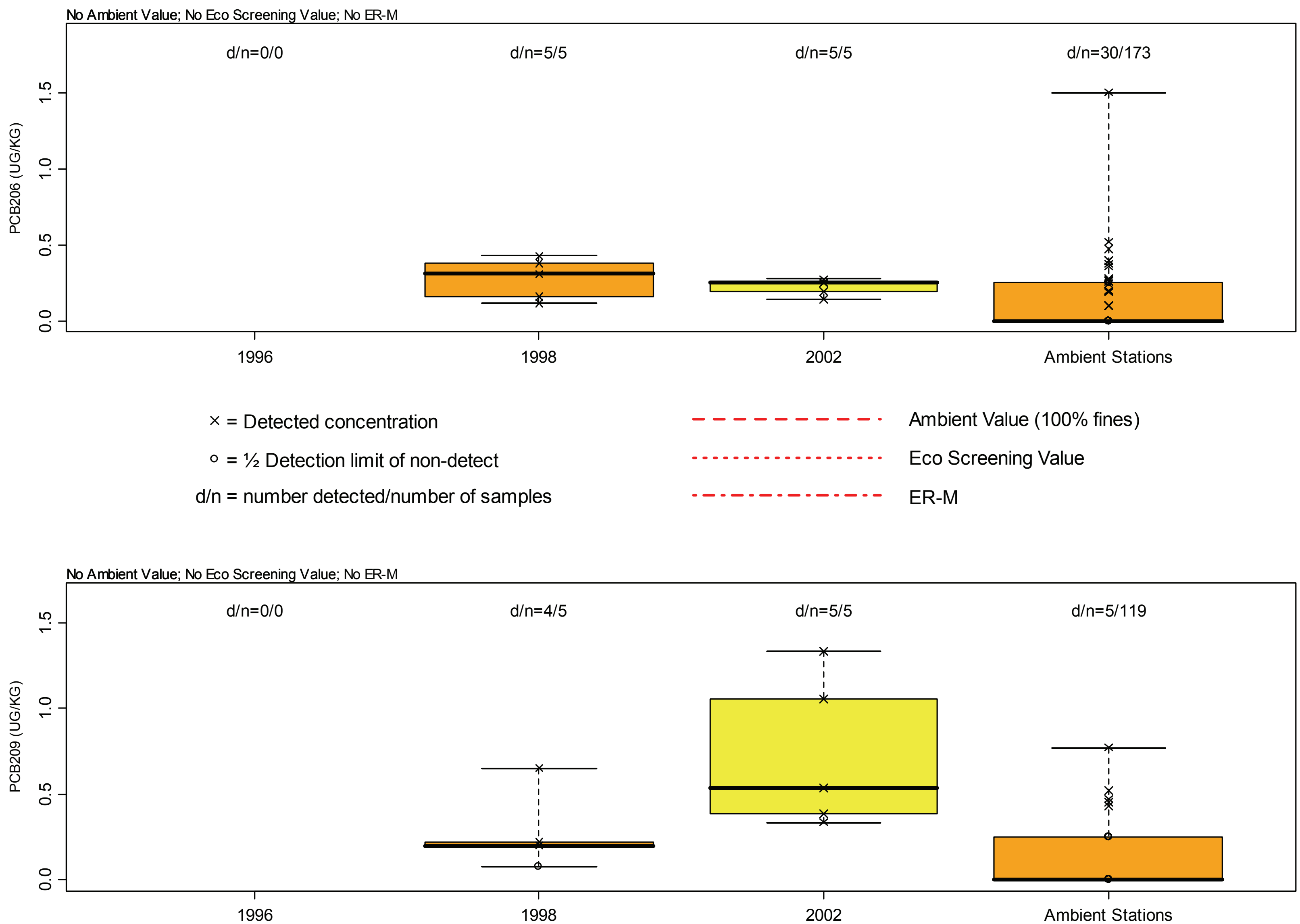


Figure A–233. Box Plots of PCB206 and PCB209 in Breakwater Beach Surface Sediment by Year.

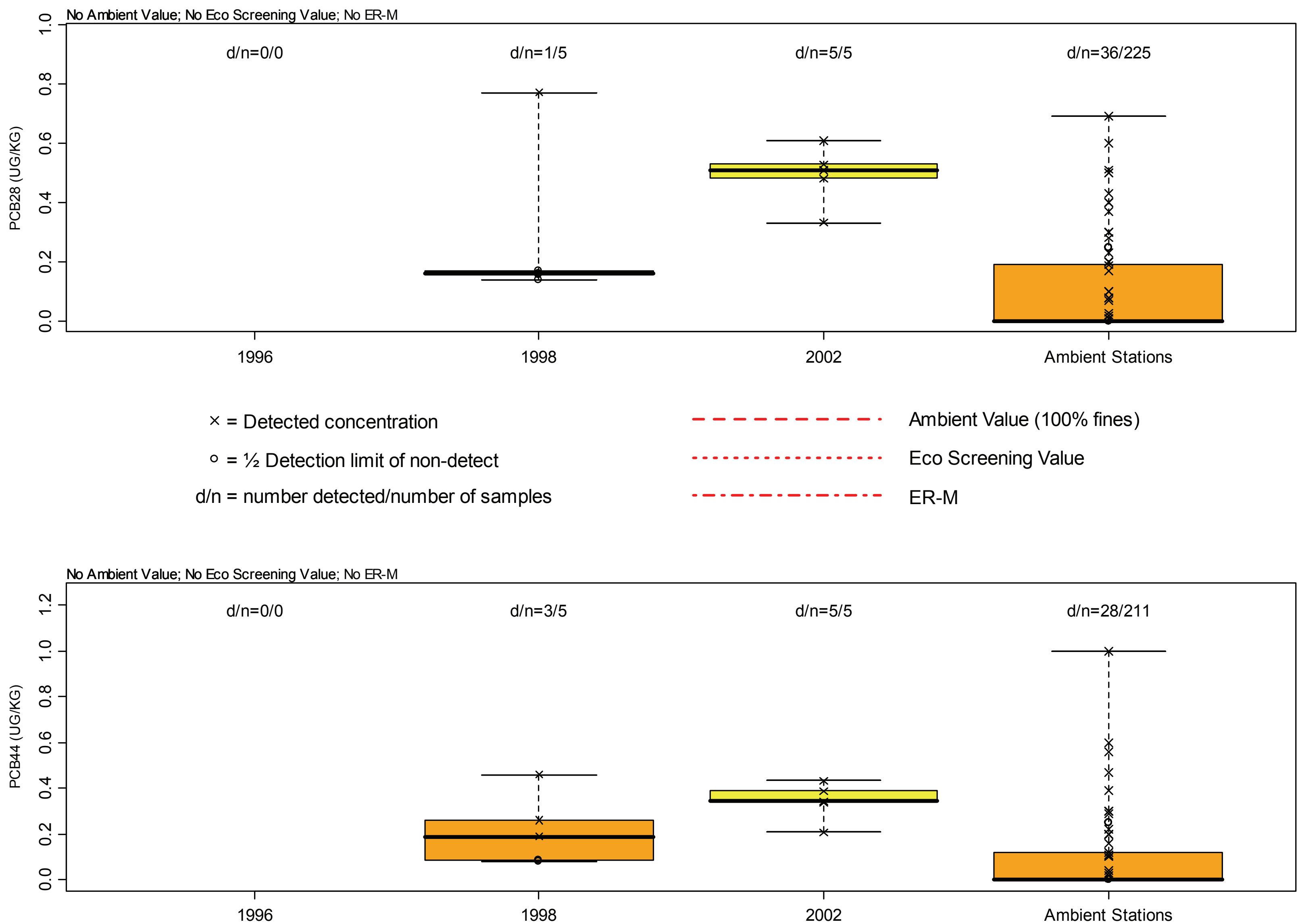


Figure A–234. Box Plots of PCB28 and PCB44 in Breakwater Beach Surface Sediment by Year.

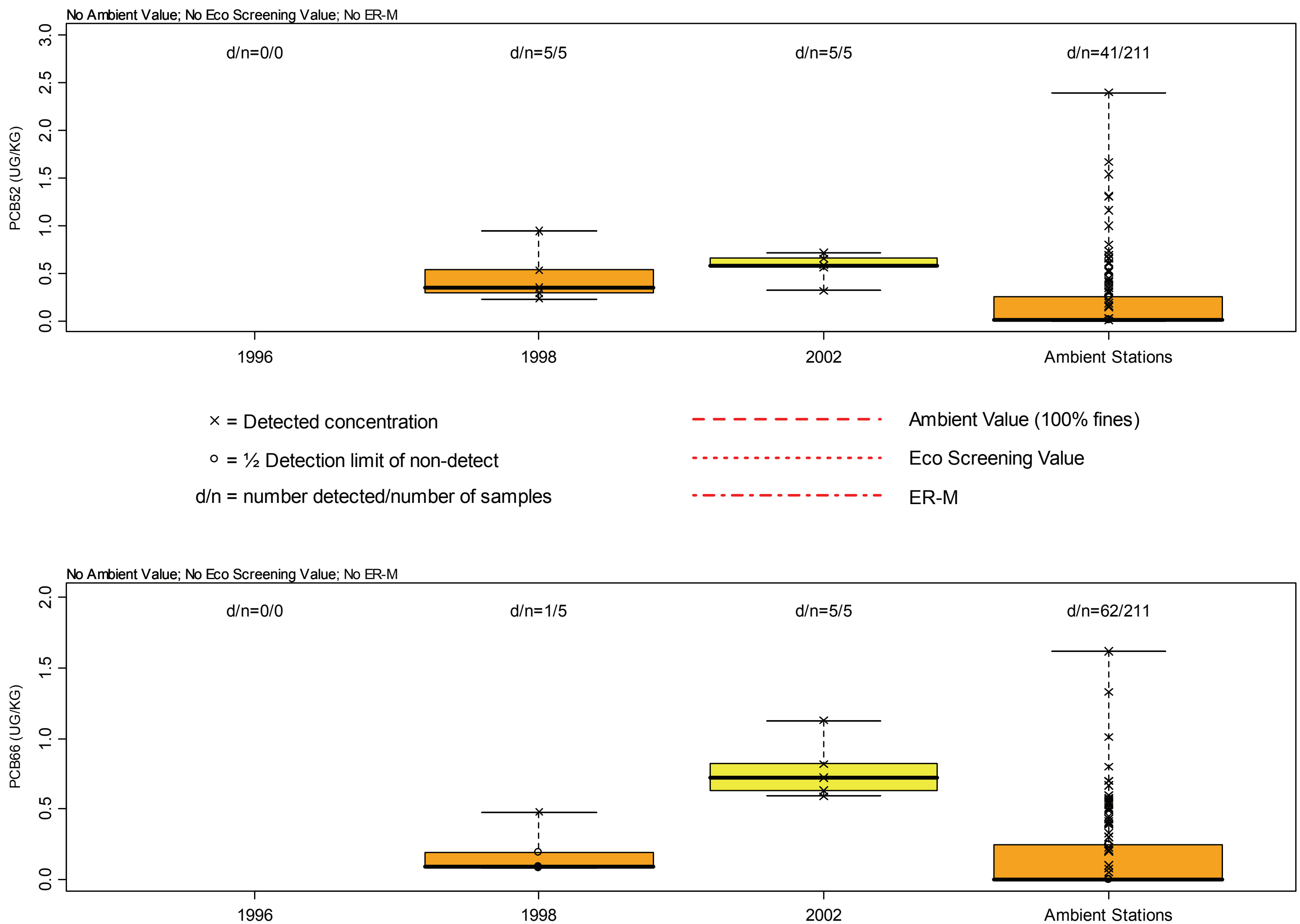


Figure A–235. Box Plots of PCB52 and PCB66 in Breakwater Beach Surface Sediment by Year.

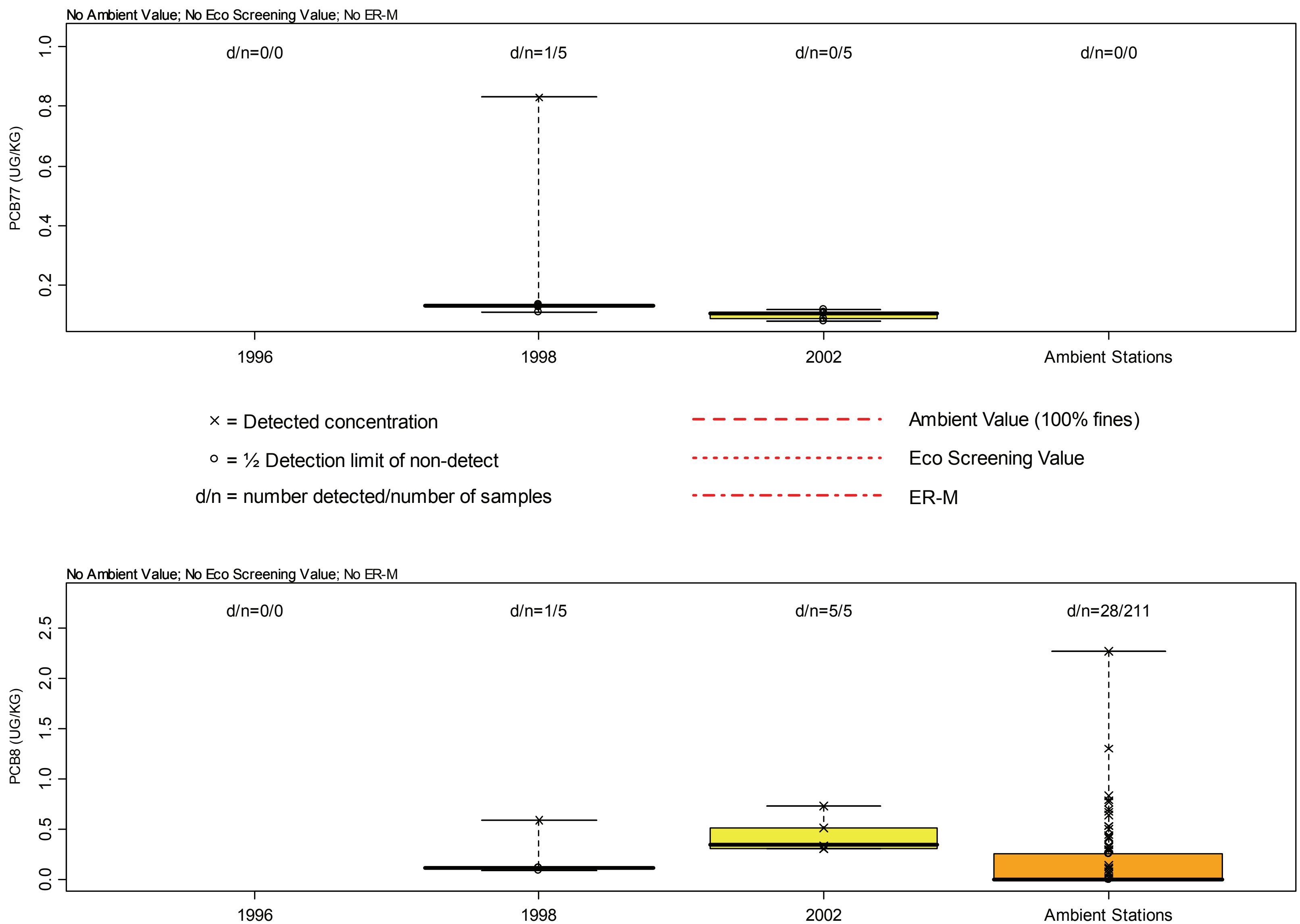
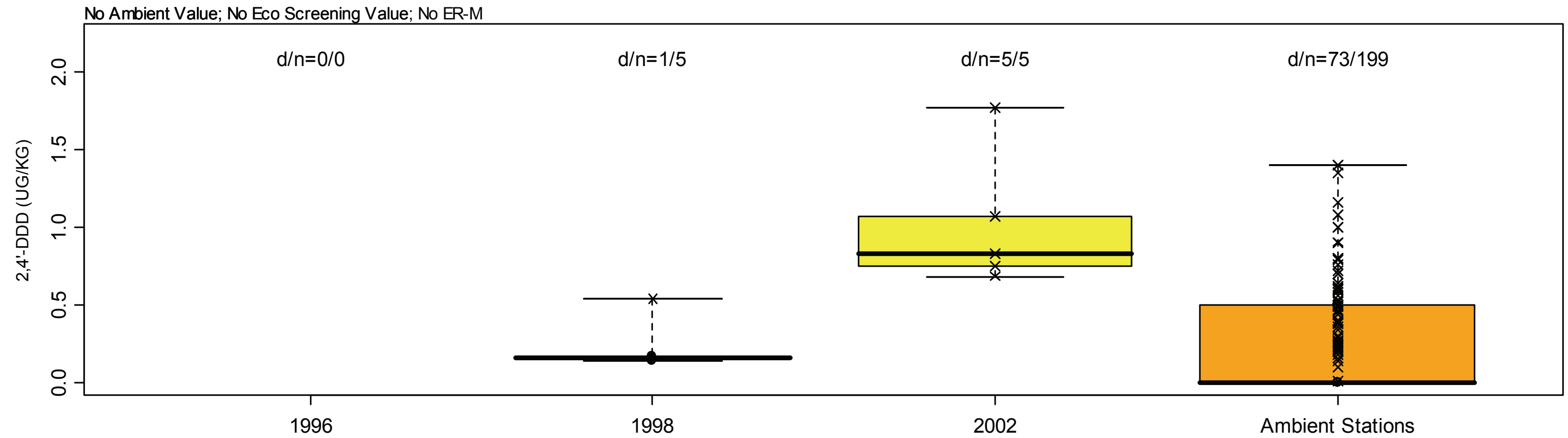


Figure A–236. Box Plots of PCB77 and PCB8 in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

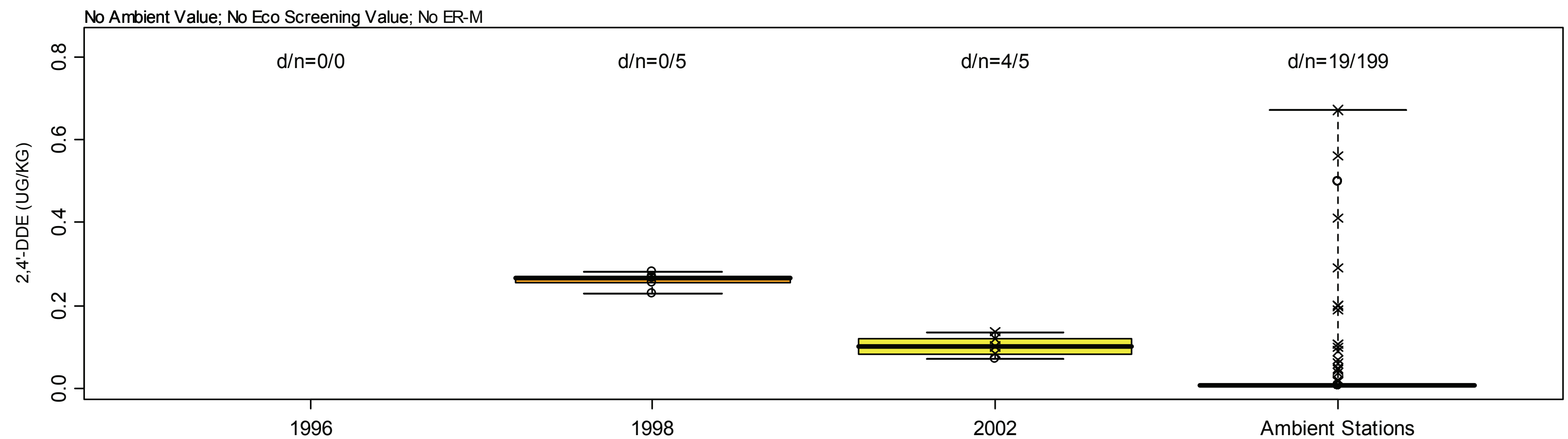


Figure A–237. Box Plots of 2,4'-DDD and 2,4'-DDE in Breakwater Beach Surface Sediment by Year.

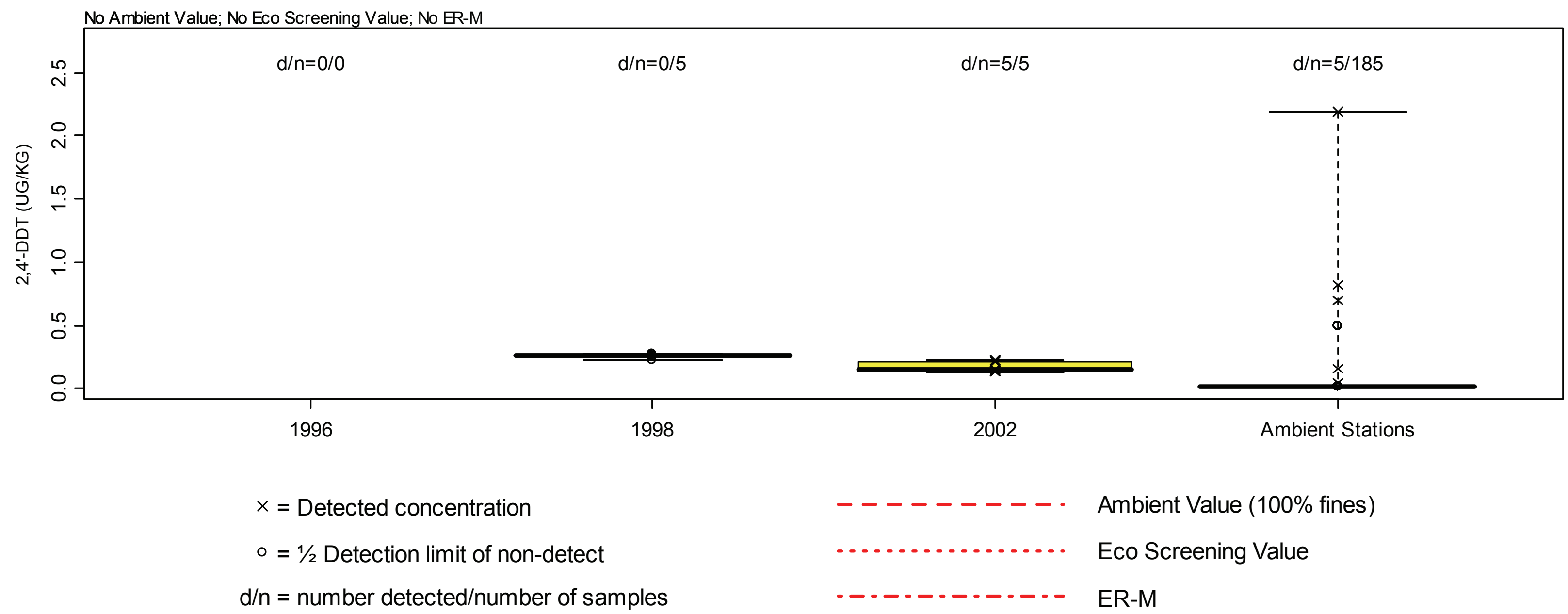
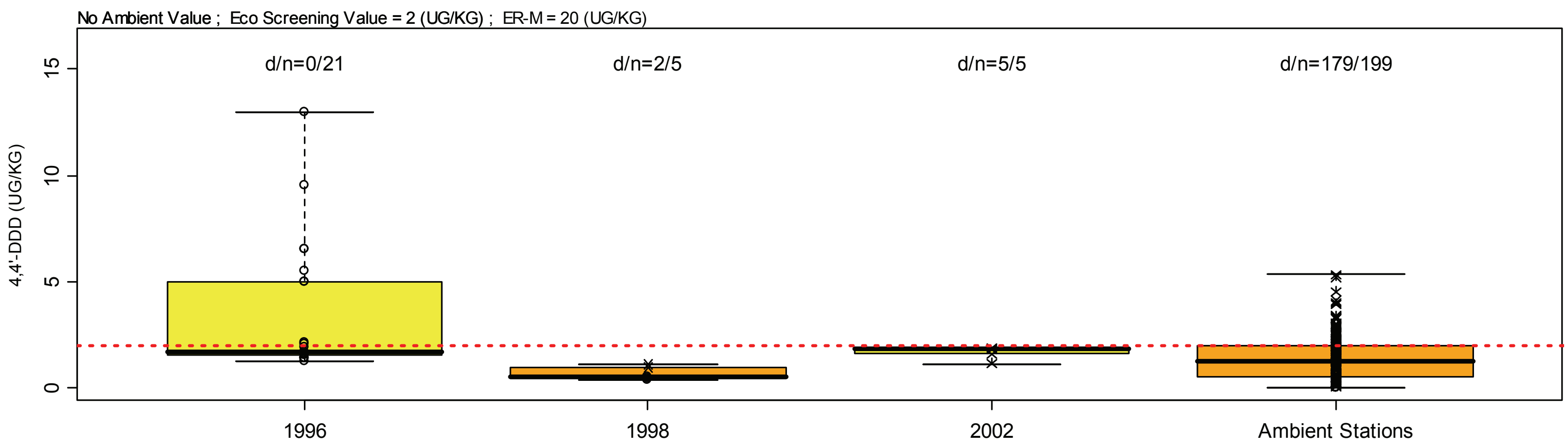


Figure A–238. Box Plots of 2,4'-DDT in Breakwater Beach Surface Sediment by Year.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

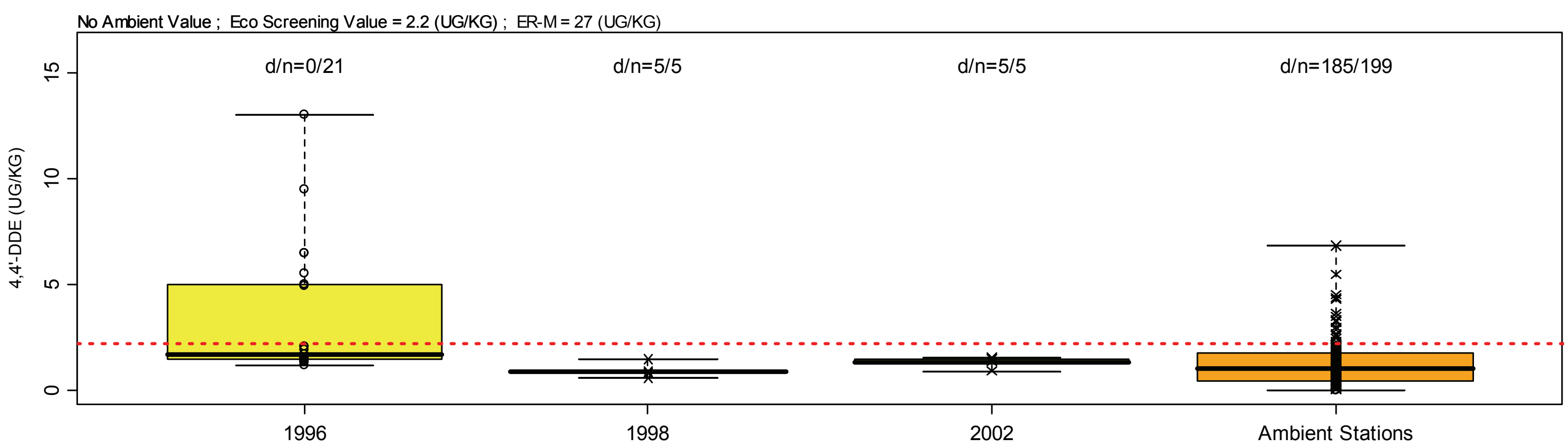


Figure A–239. Box Plots of 4,4'-DDD and 4,4'-DDE in Breakwater Beach Surface Sediment by Year.

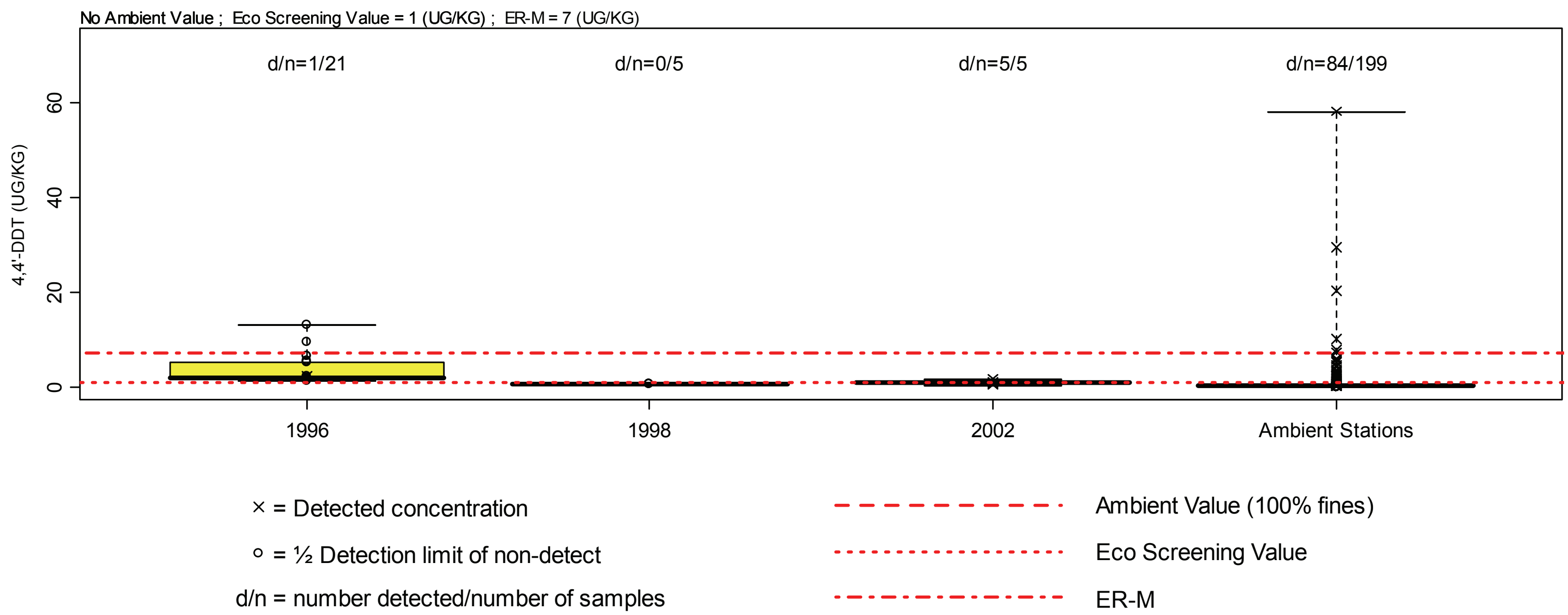


Figure A–240. Box Plots of 4,4'-DDT in Breakwater Beach Surface Sediment by Year.

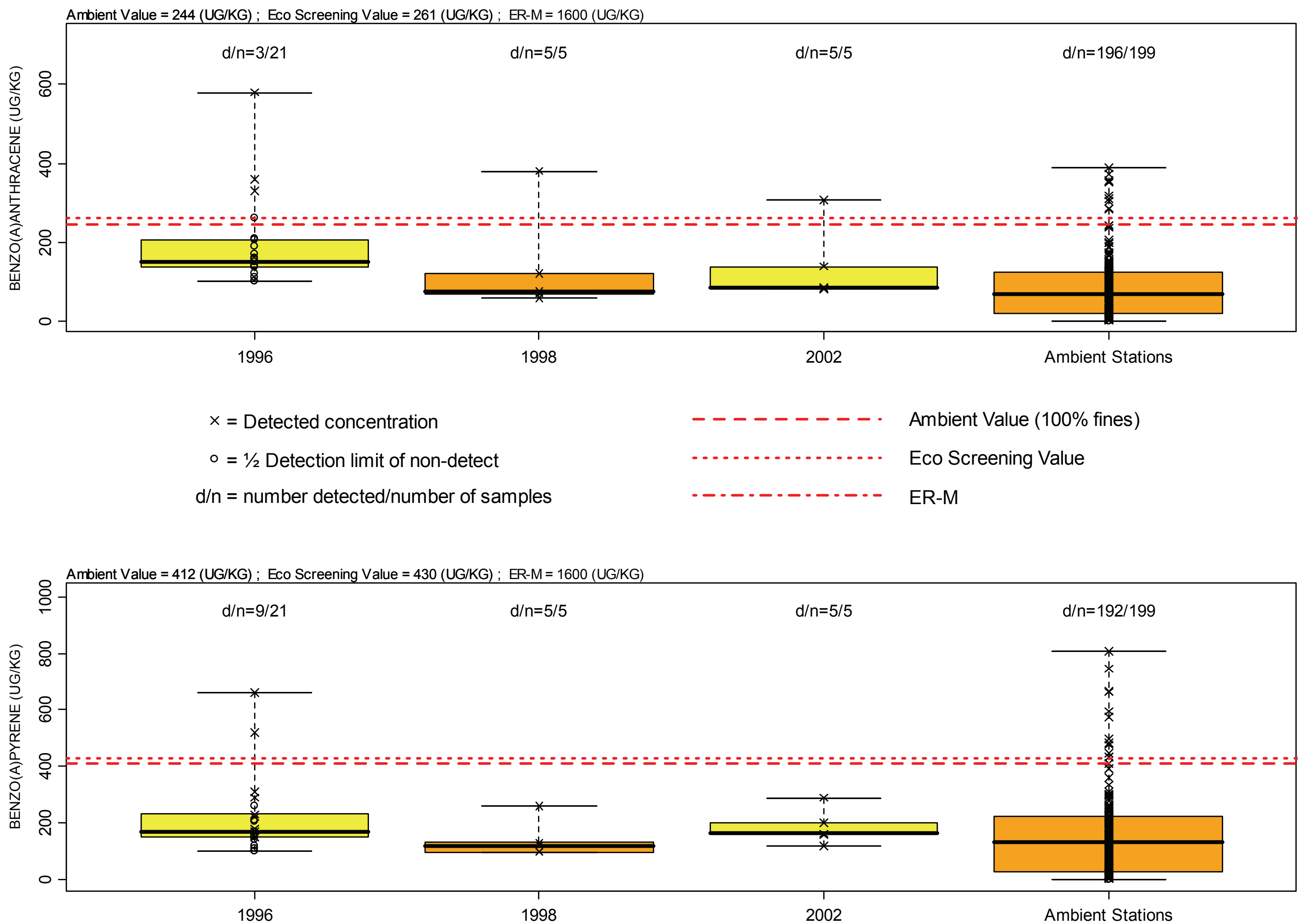


Figure A–241. Box Plots of Benzo(a)anthracene and Benzo(a)pyrene in Breakwater Beach Surface Sediment by Year.

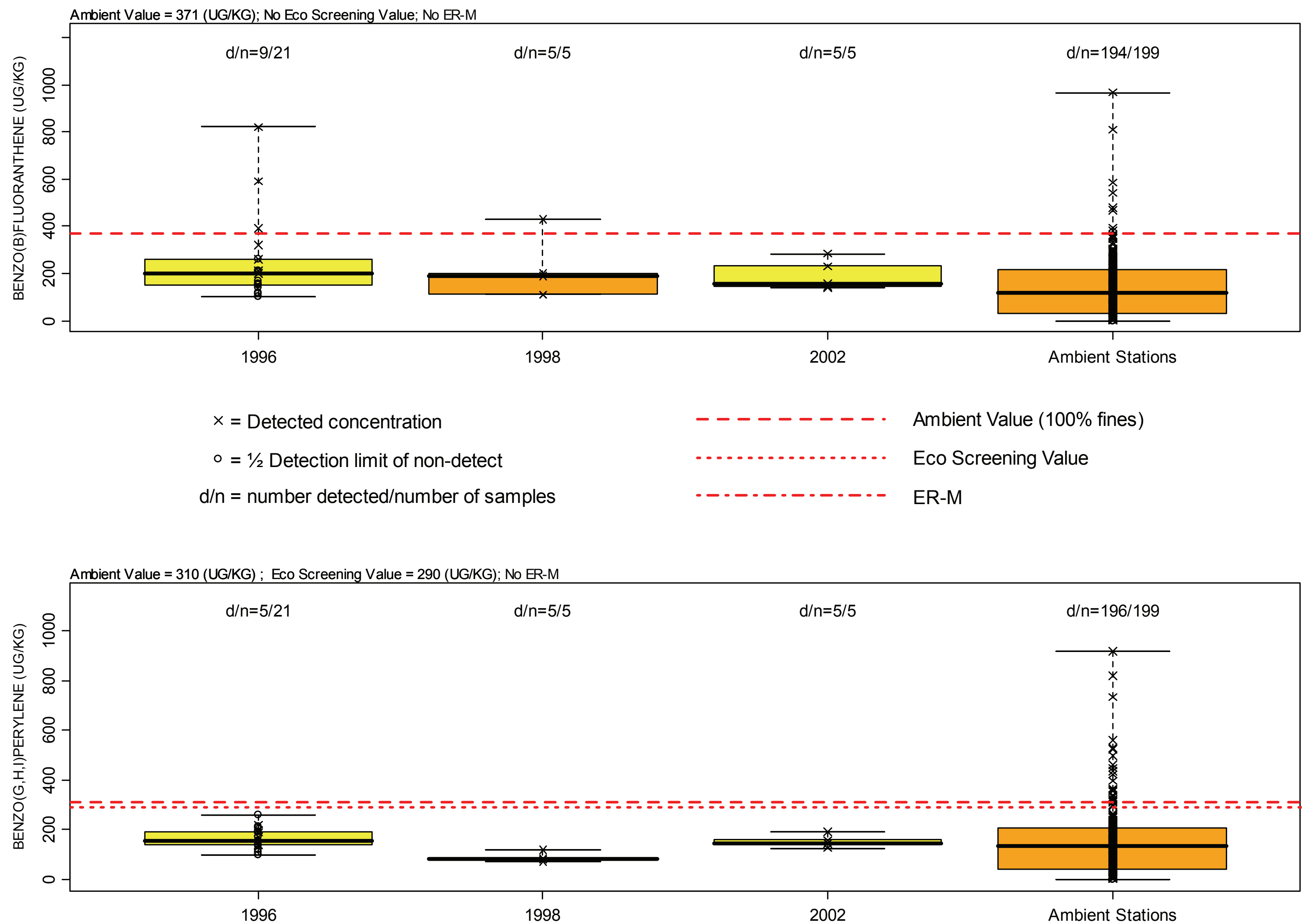


Figure A–242. Box Plots of Benzo(b)fluoranthene and Benzo(g,h,i)perylene in Breakwater Beach Surface Sediment by Year.

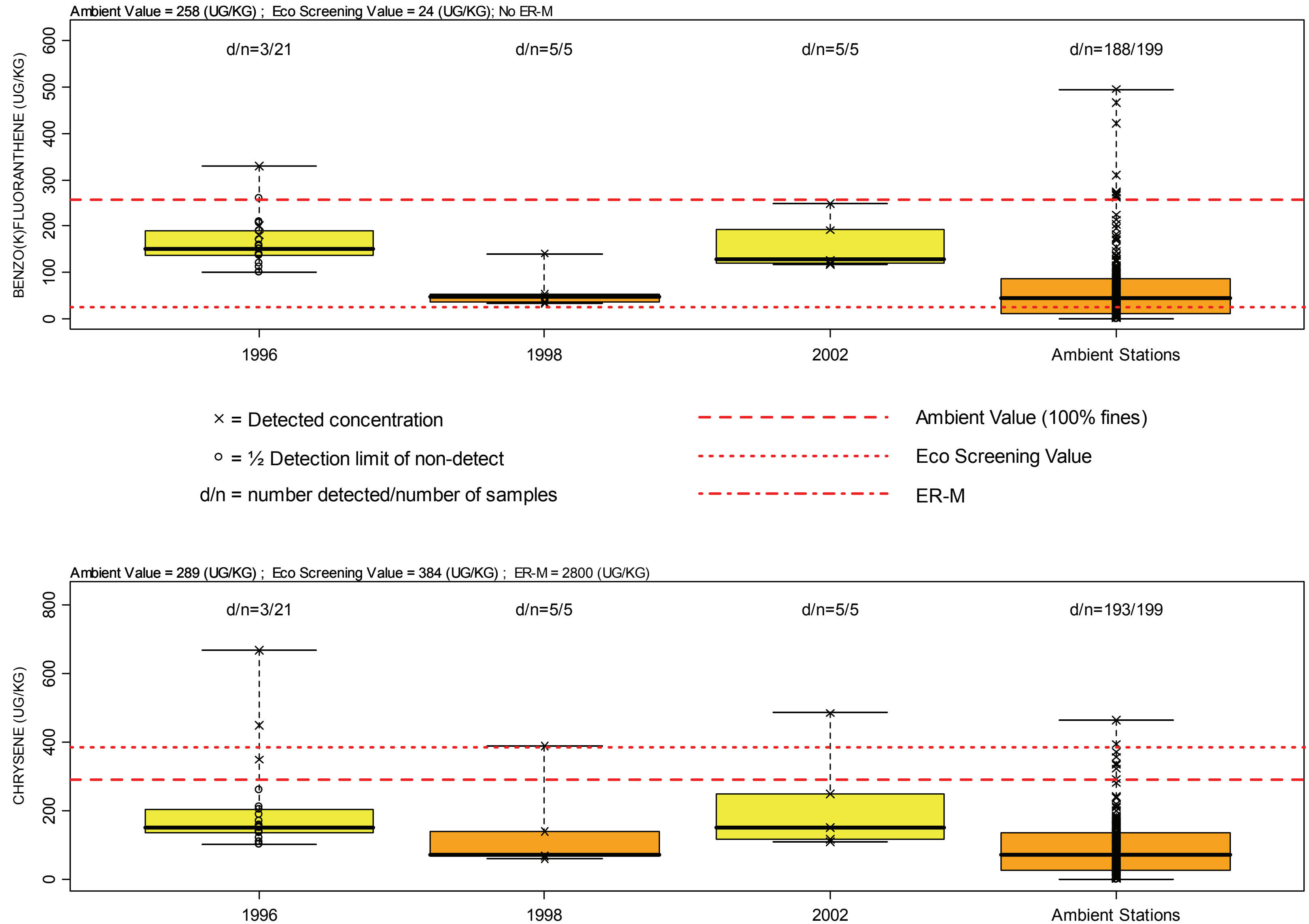


Figure A–243. Box Plots of Benzo(k)fluoranthene and Chrysene in Breakwater Beach Surface Sediment by Year.

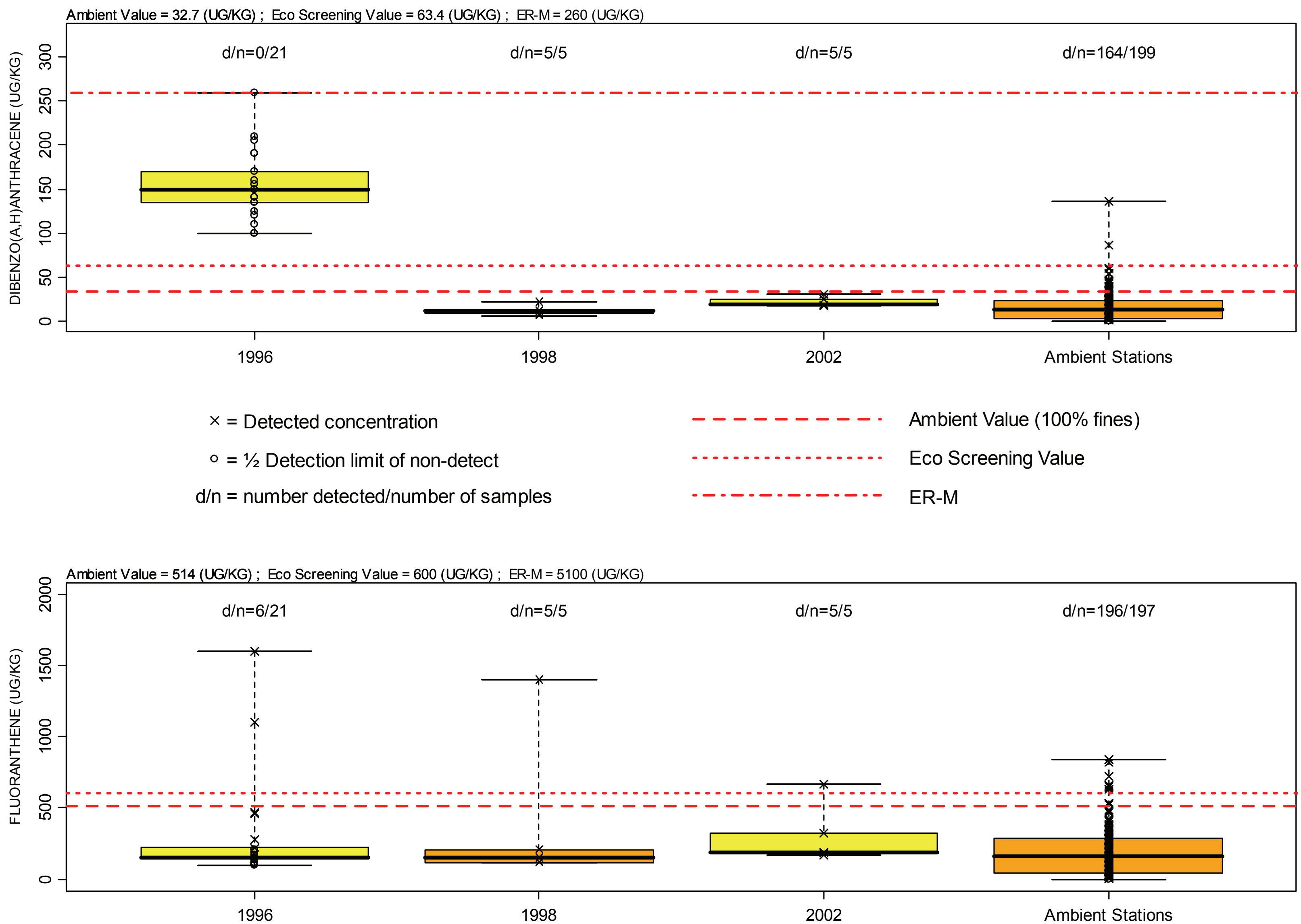


Figure A–244. Box Plots of Dibenzo(a,h)anthracene and Fluoranthene in Breakwater Beach Surface Sediment by Year.

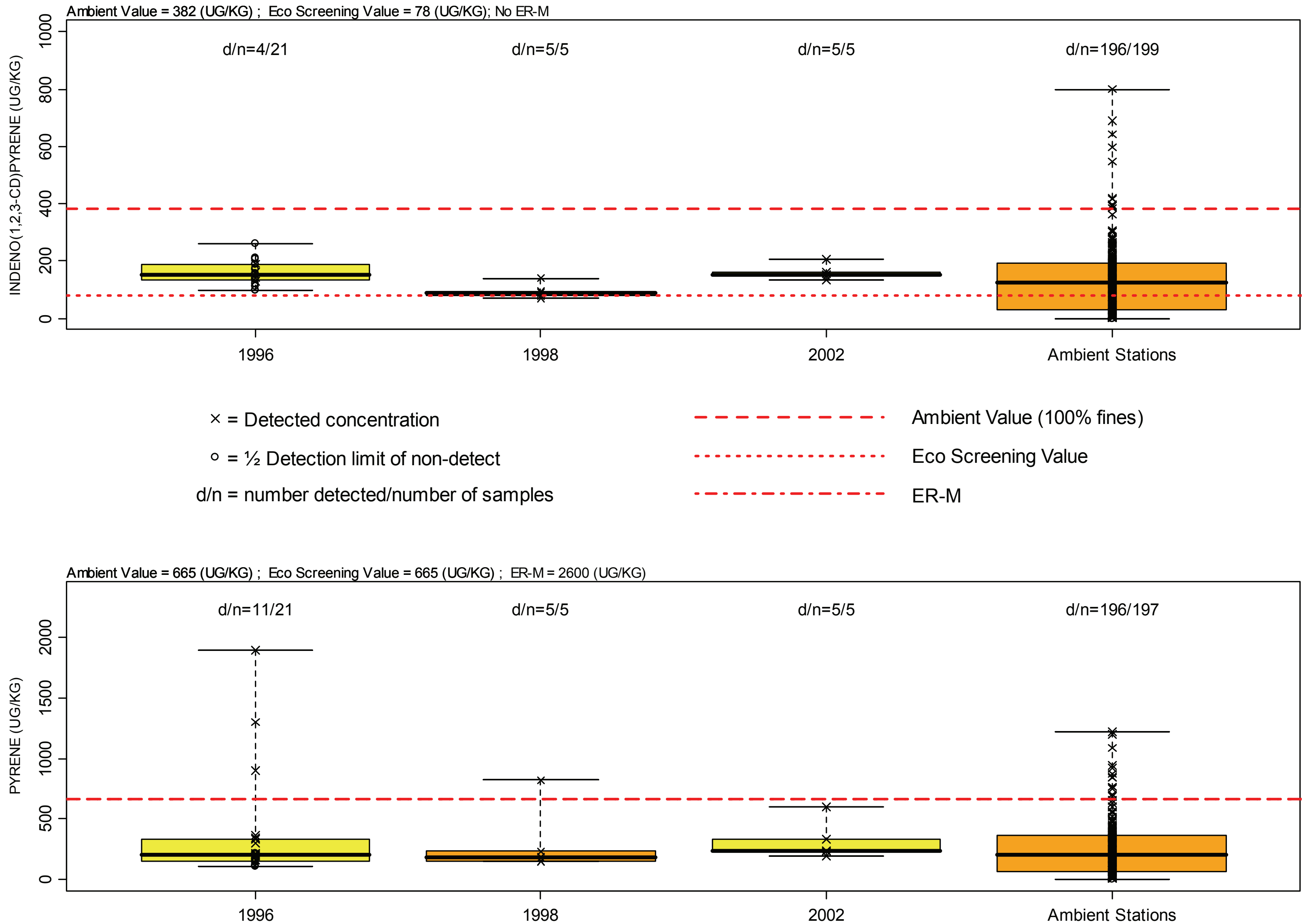


Figure A–245. Box Plots of Indeno(1,2,3-cd)pyrene and Pyrene in Breakwater Beach Surface Sediment by Year.

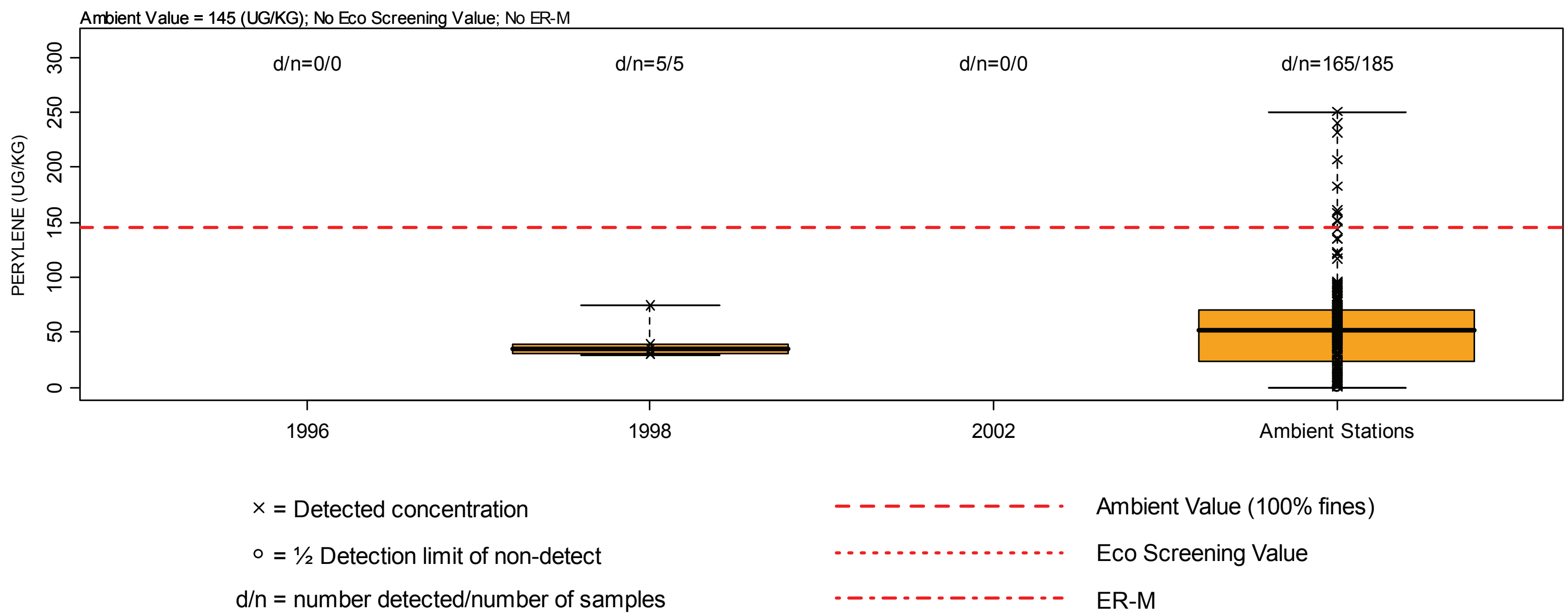


Figure A–246. Box Plots of Perylene in Breakwater Beach Surface Sediment by Year.

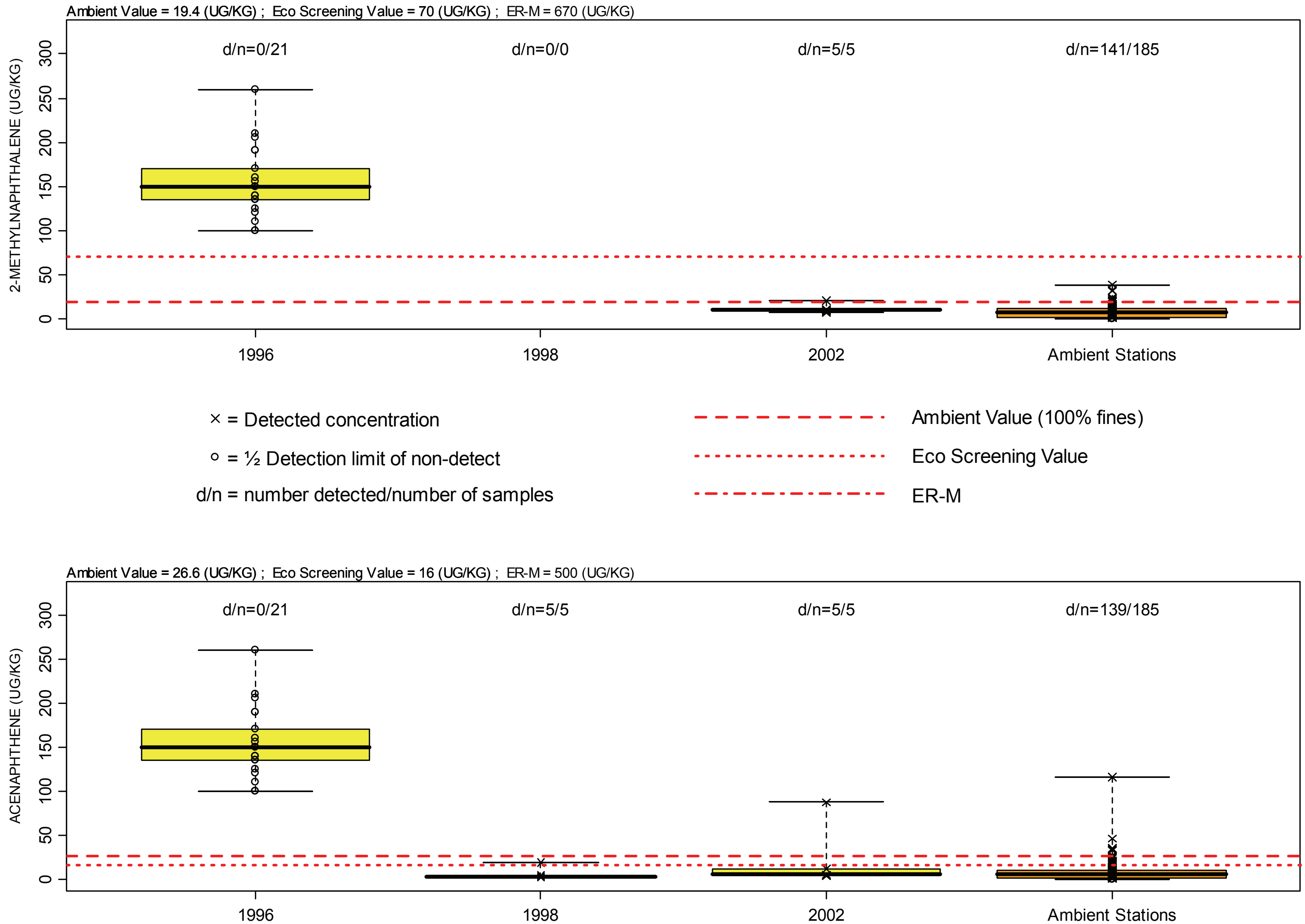


Figure A–247. Box Plots of 2-Methylnaphthalene and Acenaphthene in Breakwater Beach Surface Sediment by Year.

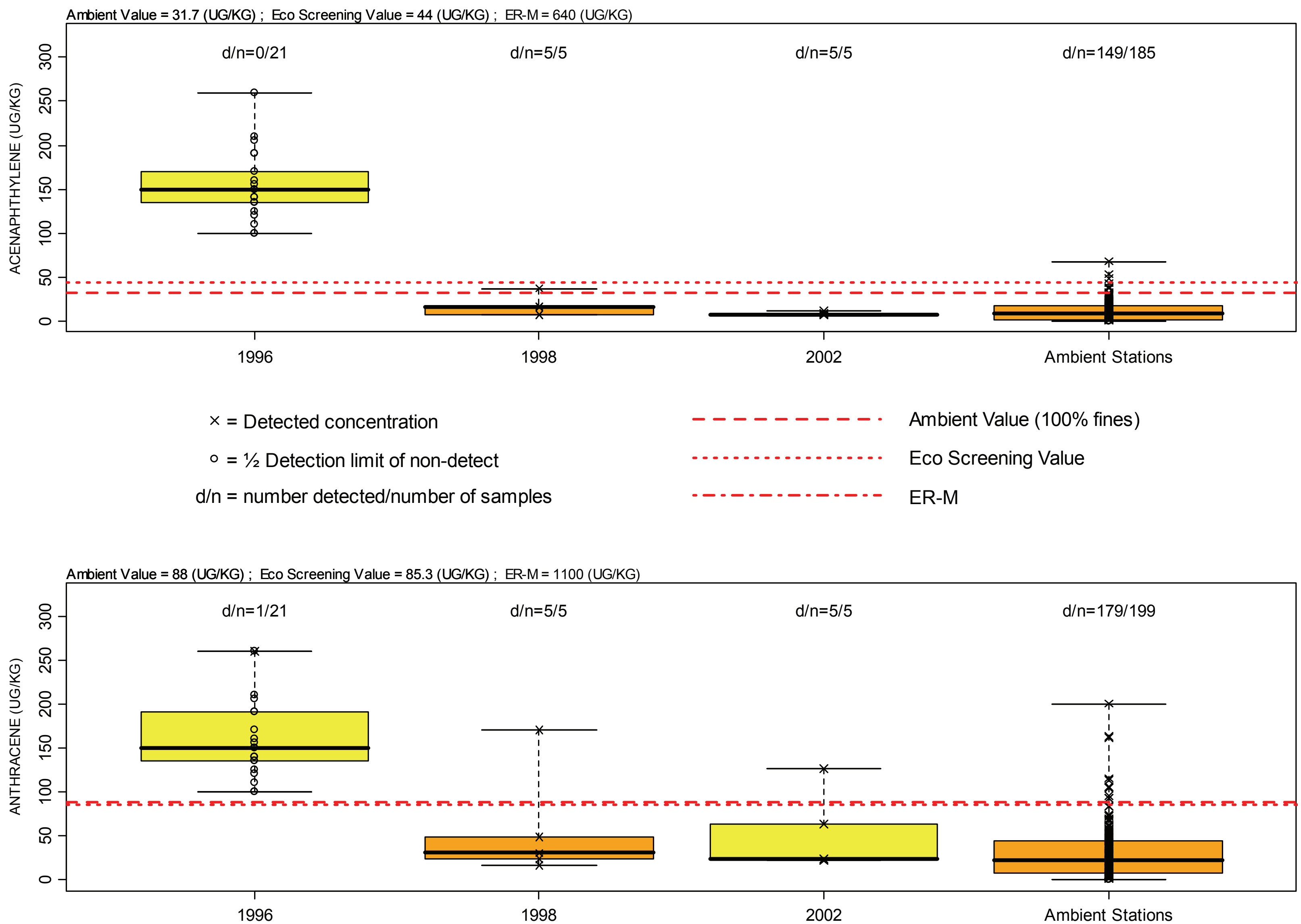


Figure A–248. Box Plots of Acenaphthylene and Anthracene in Breakwater Beach Surface Sediment by Year.

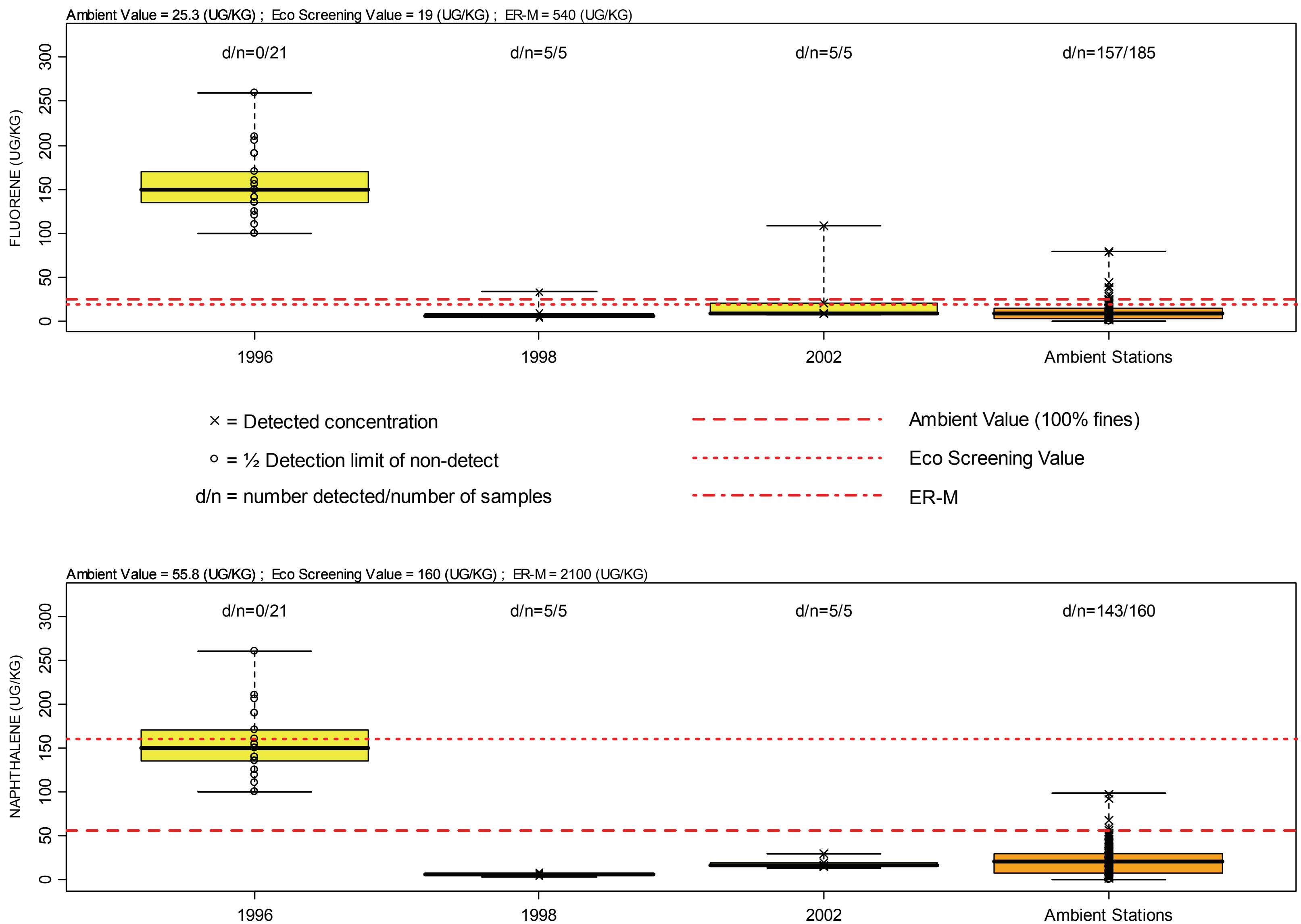


Figure A–249. Box Plots of Fluorene and Naphthalene in Breakwater Beach Surface Sediment by Year.

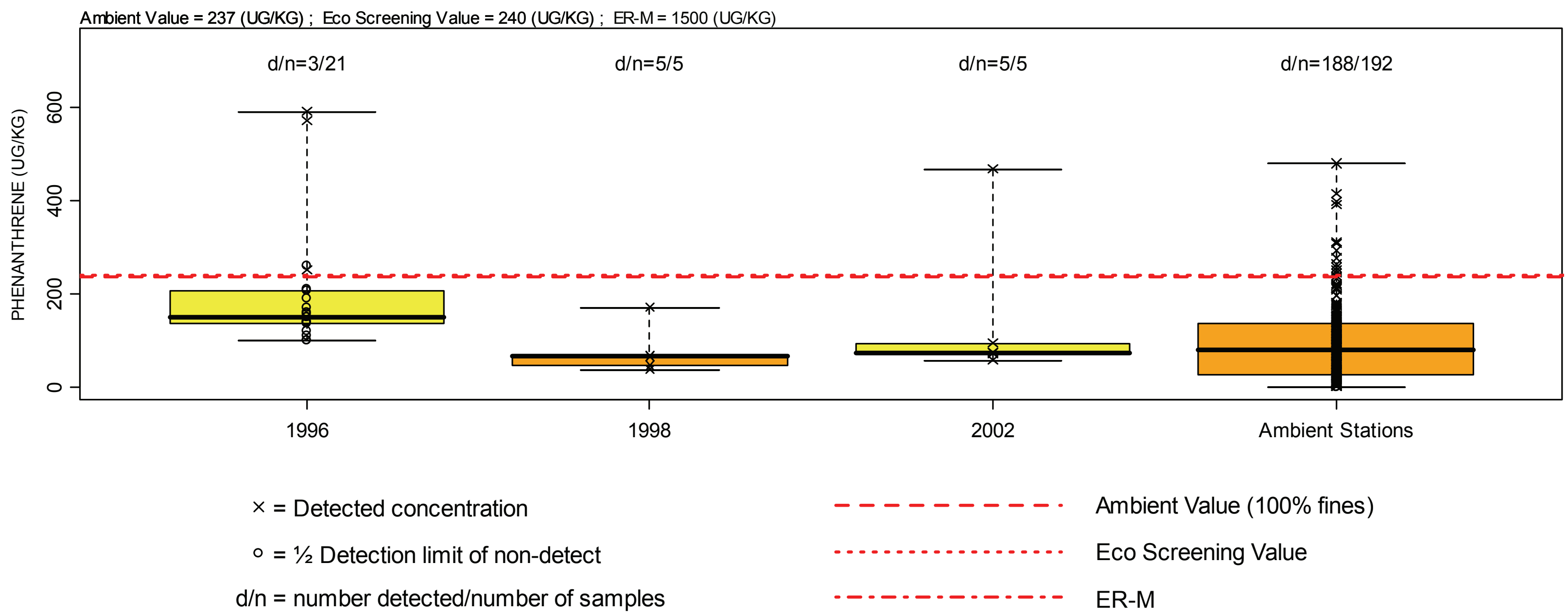


Figure A–250. Box Plots of Phenanthrene in Breakwater Beach Surface Sediment by Year.

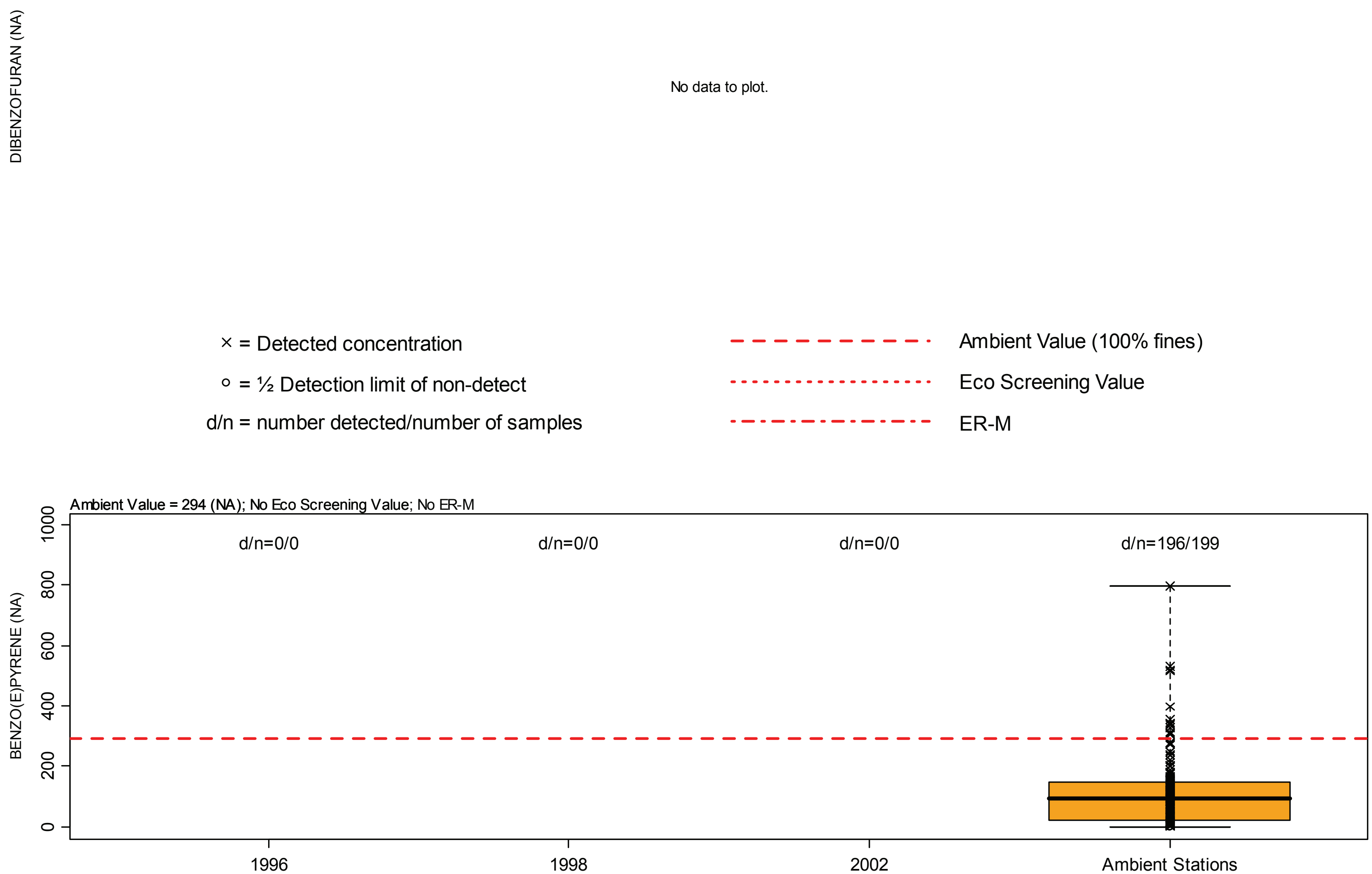


Figure A–251. Box Plots of Dibenzofuran and Benzo(e)pyrene in Breakwater Beach Surface Sediment by Year.

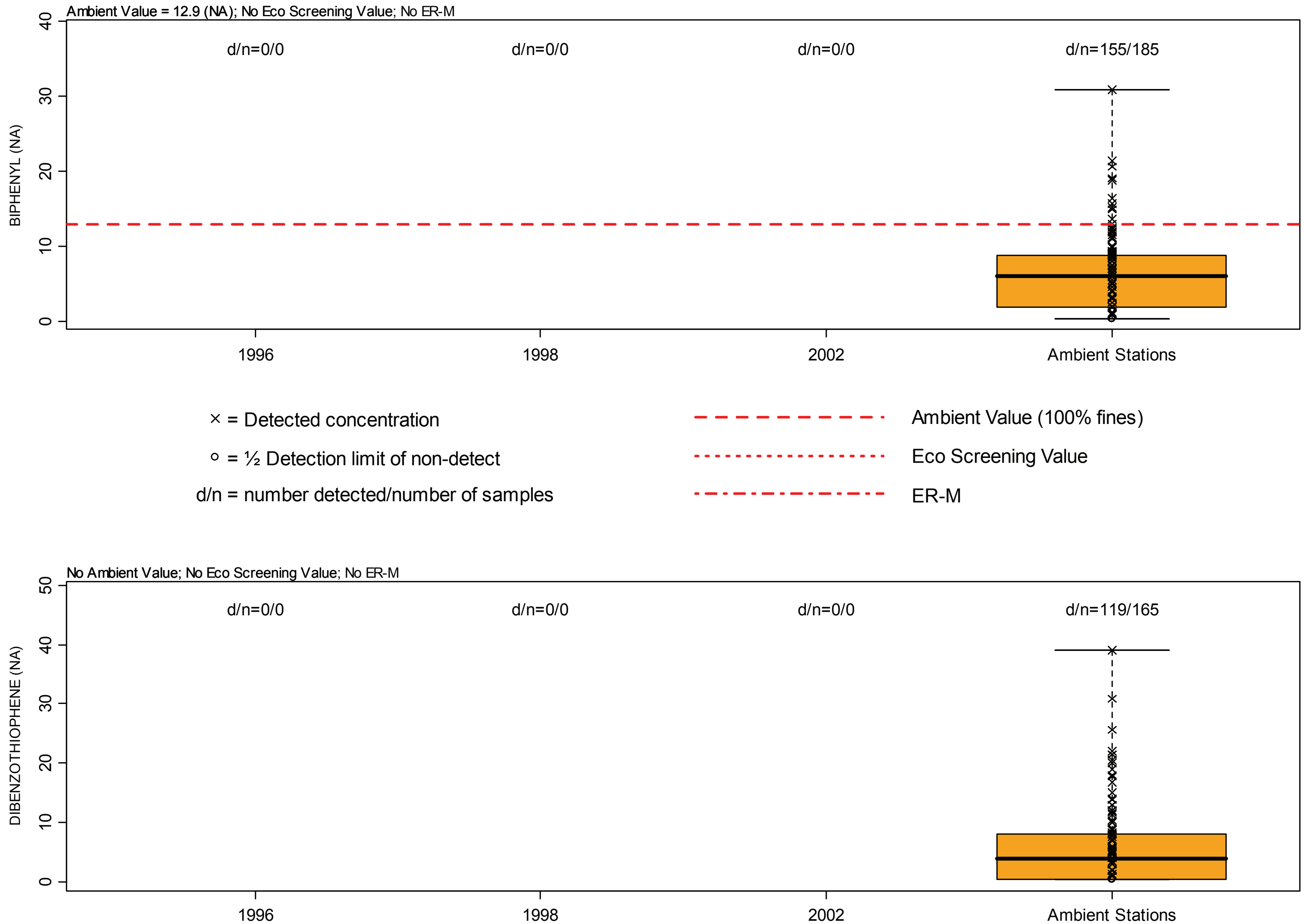


Figure A–252. Box Plots of Biphenyl and Dibenzothiophene in Breakwater Beach Surface Sediment by Year.

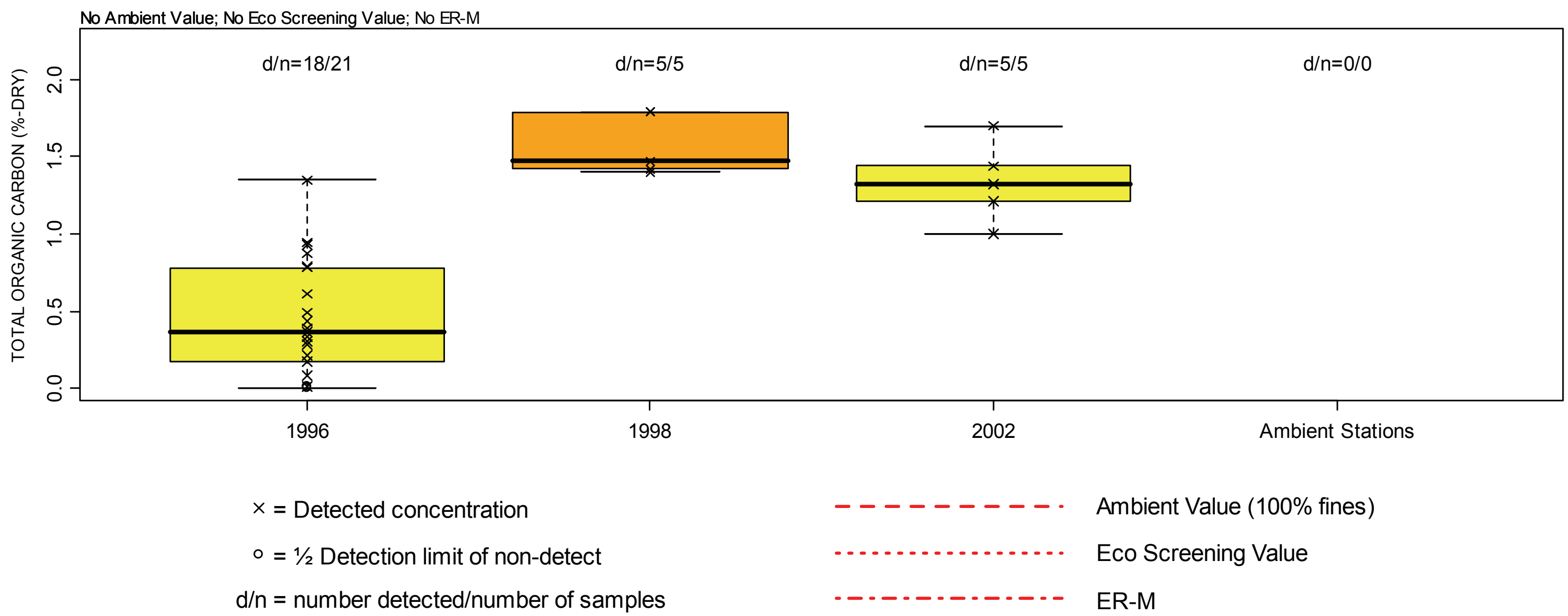


Figure A–253. Box Plots of Total Organic Carbon in Breakwater Beach Surface Sediment by Year.

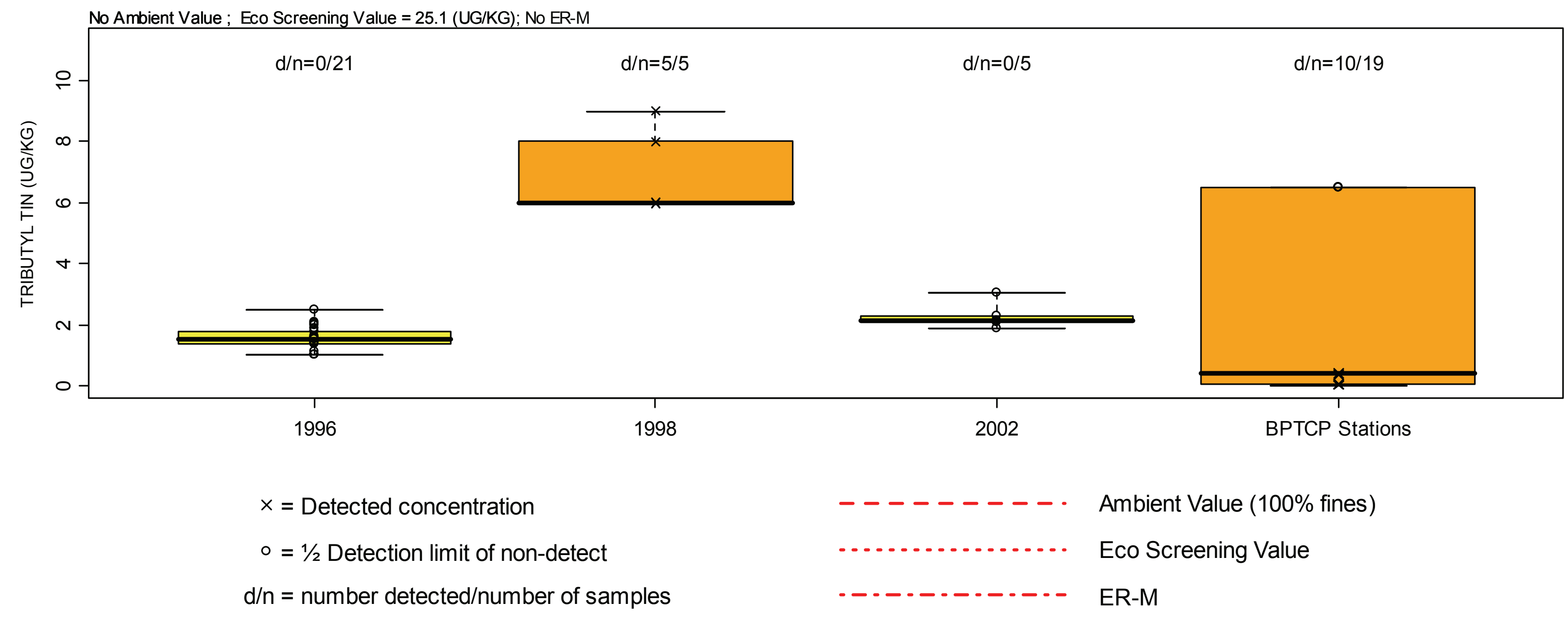


Figure A–254. Box Plots of Tributyl Tin in Breakwater Beach Surface Sediment by Year.

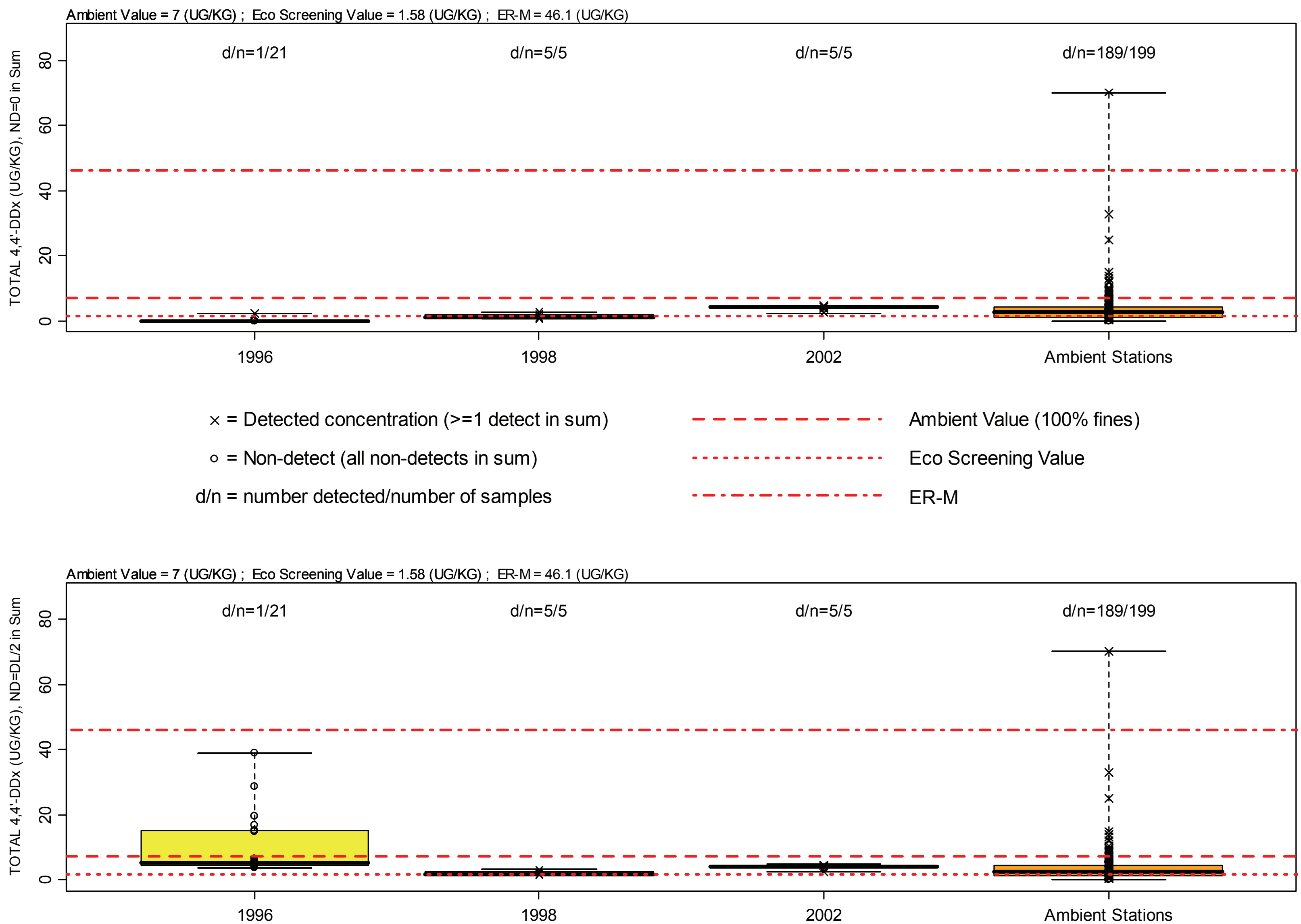
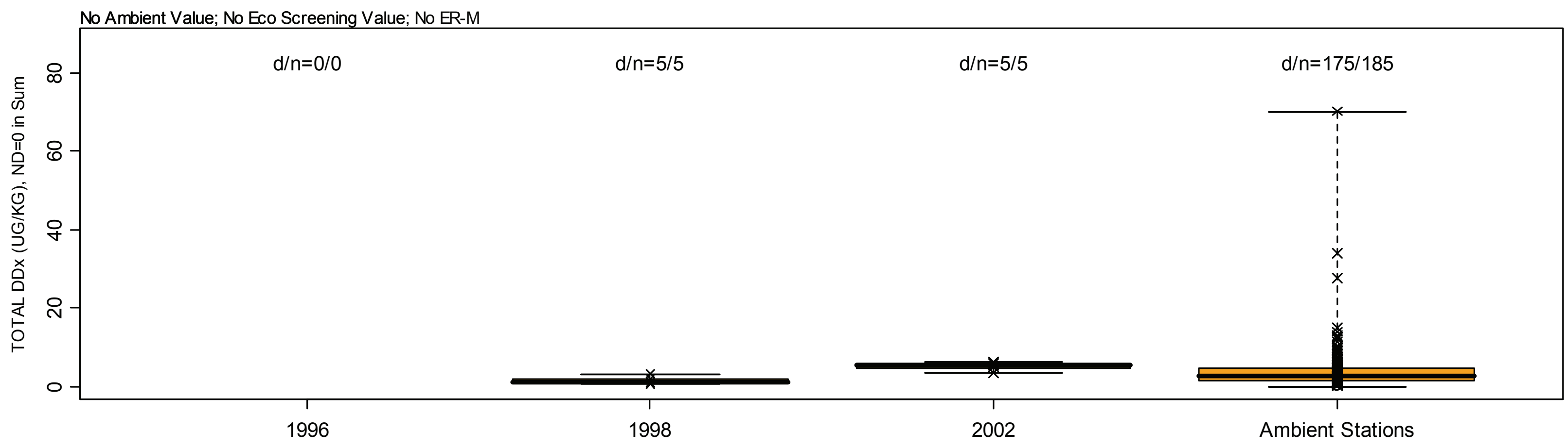


Figure A–255. Box Plots of Total 4,4'-DDx in Breakwater Beach Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum) — Ambient Value (100% fines)

○ = Non-detect (all non-detects in sum) — Eco Screening Value

d/n = number detected/number of samples — ER-M

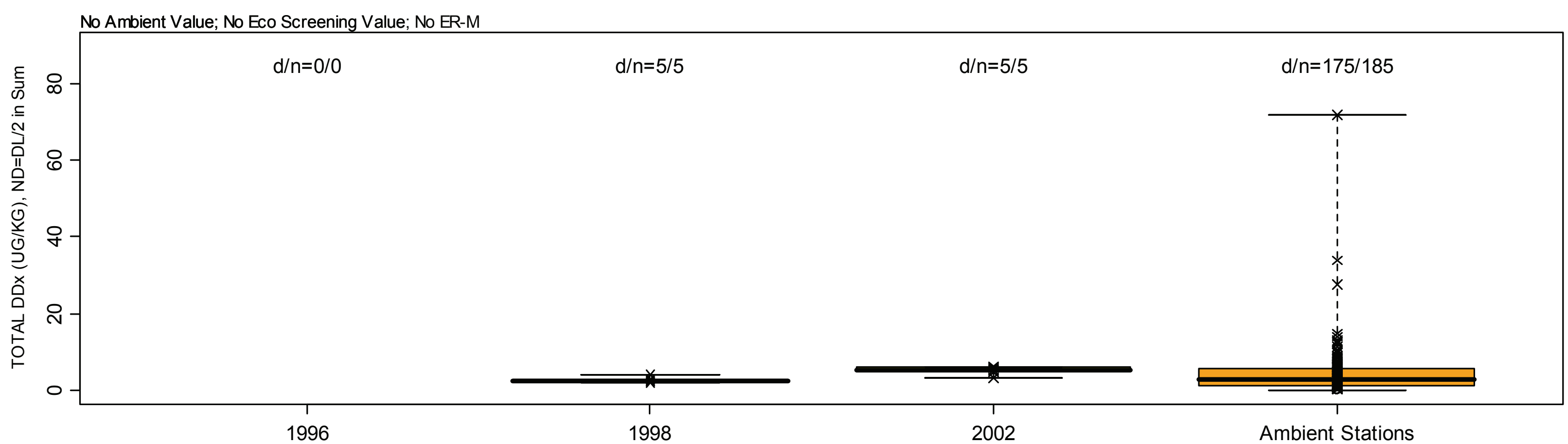


Figure A–256. Box Plots of Total DDx in Breakwater Beach Surface Sediment by Year.

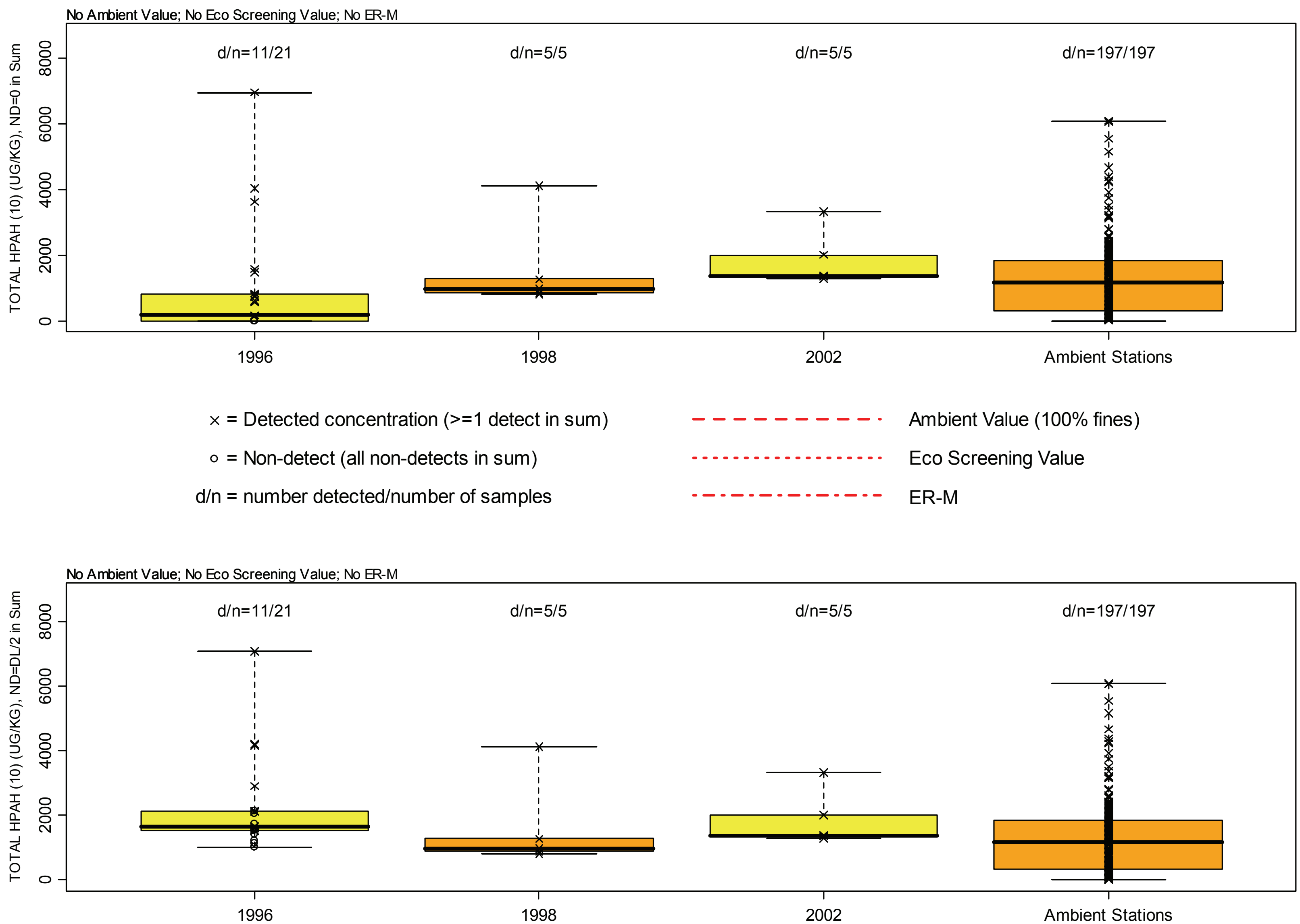


Figure A–257. Box Plots of Total HPAH(10) in Breakwater Beach Surface Sediment by Year.

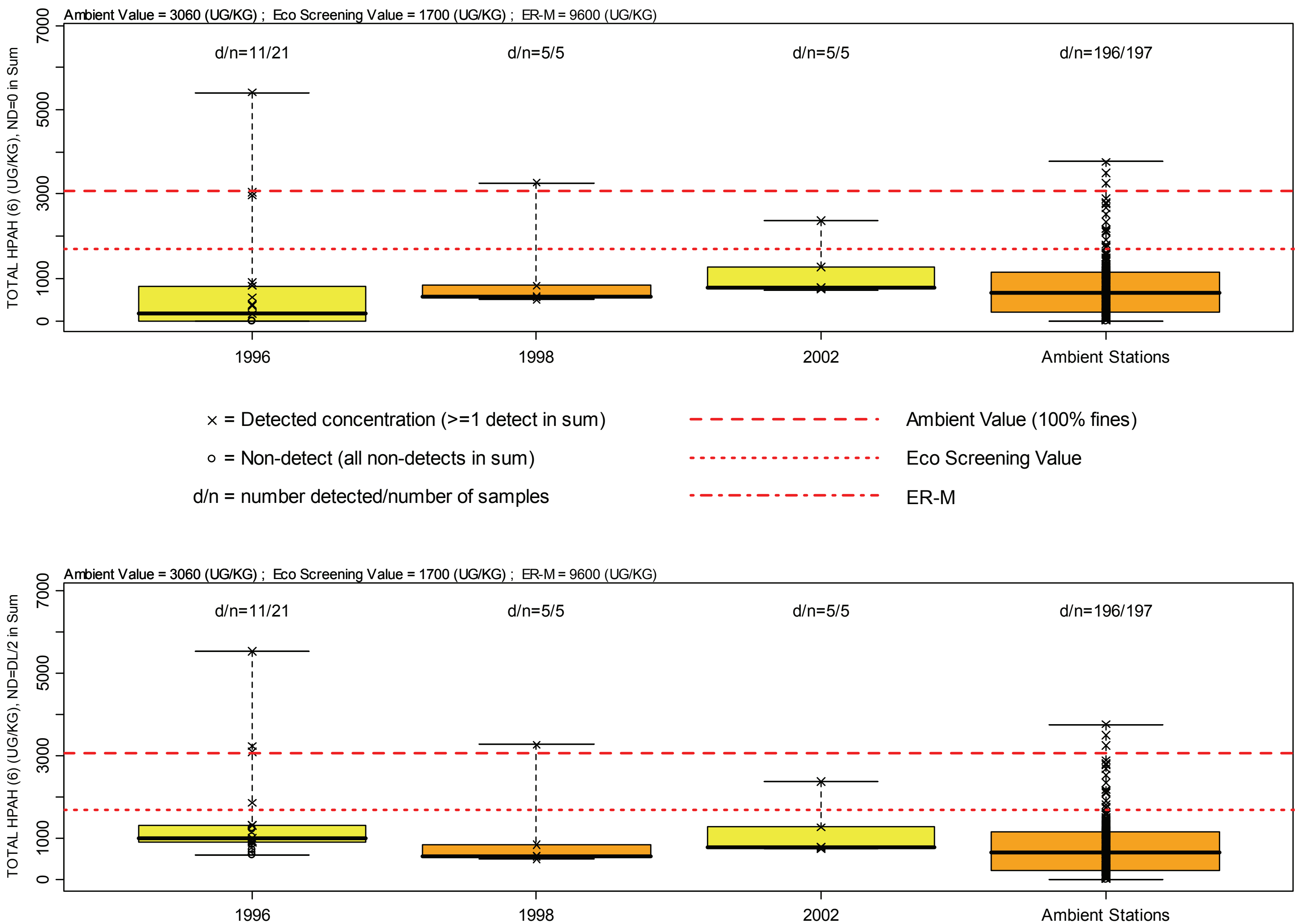
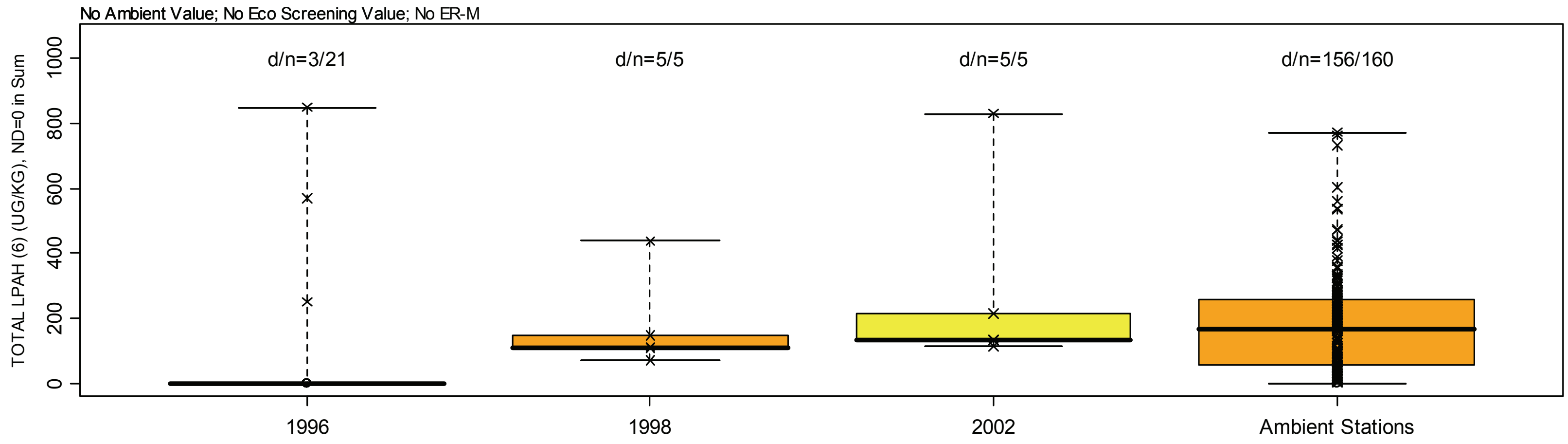


Figure A–258. Box Plots of Total HPAH(6) in Breakwater Beach Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

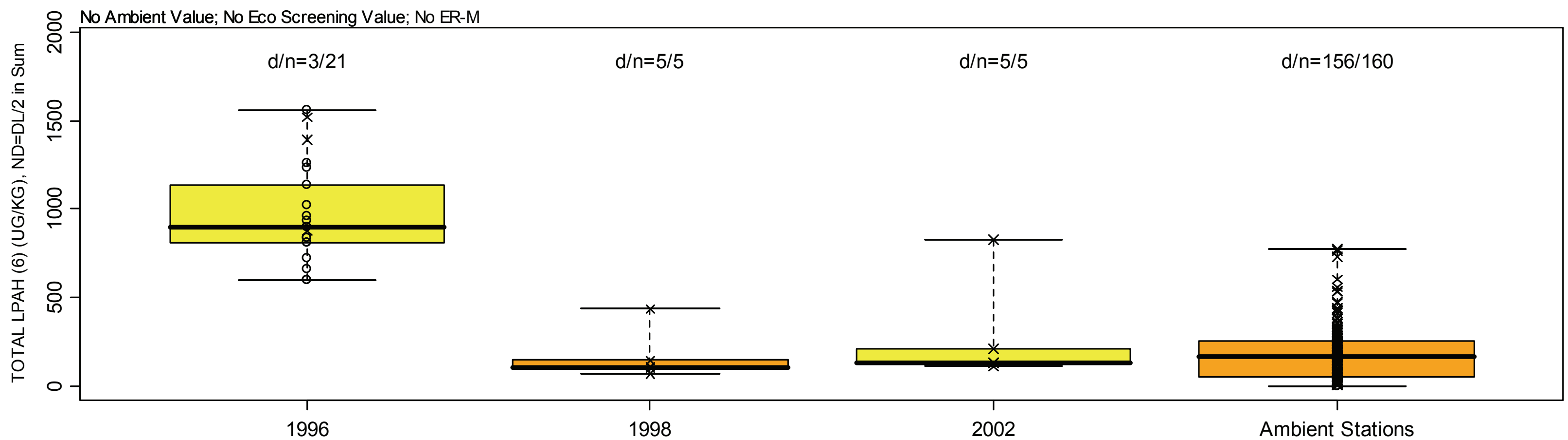


Figure A–259. Box Plots of Total LPAH(6) in Breakwater Beach Surface Sediment by Year.

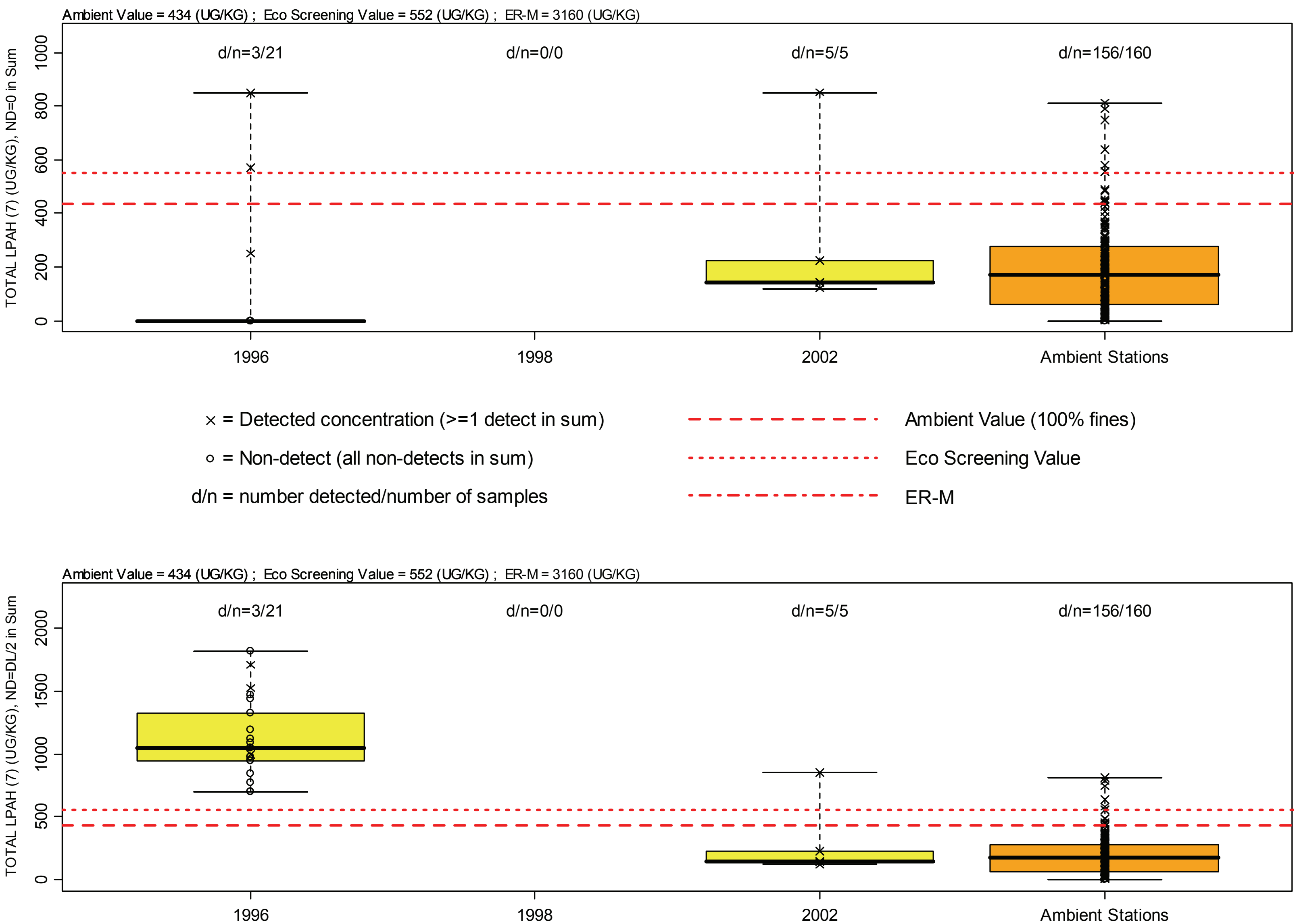
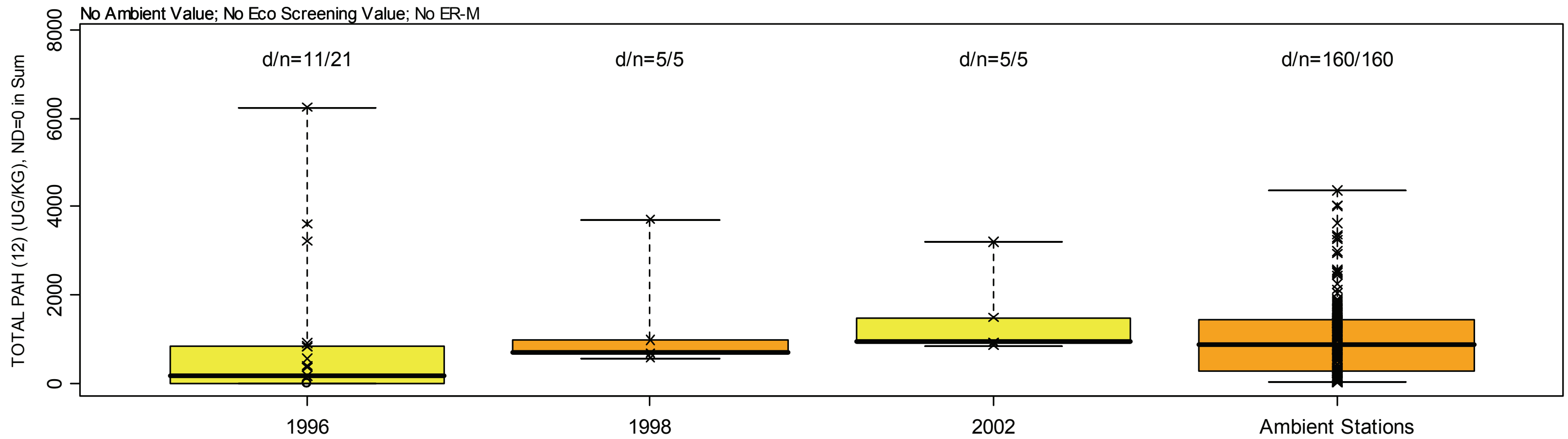


Figure A–260. Box Plots of Total LPAH(7) in Breakwater Beach Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum)

○ = Non-detect (all non-detects in sum)

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

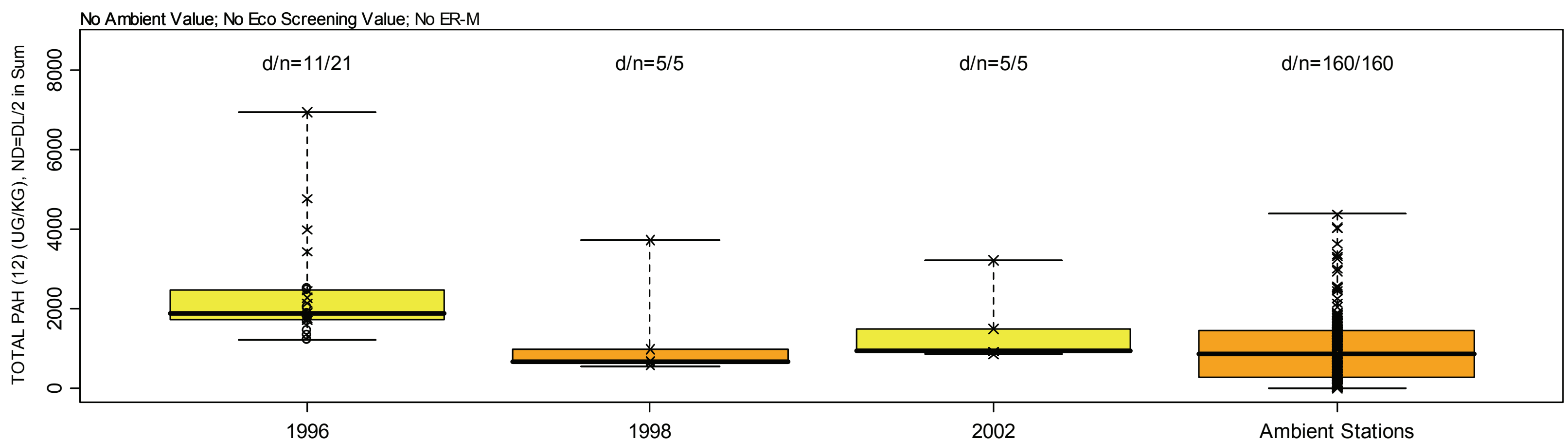


Figure A–261. Box Plots of Total PAH(12) in Breakwater Beach Surface Sediment by Year.

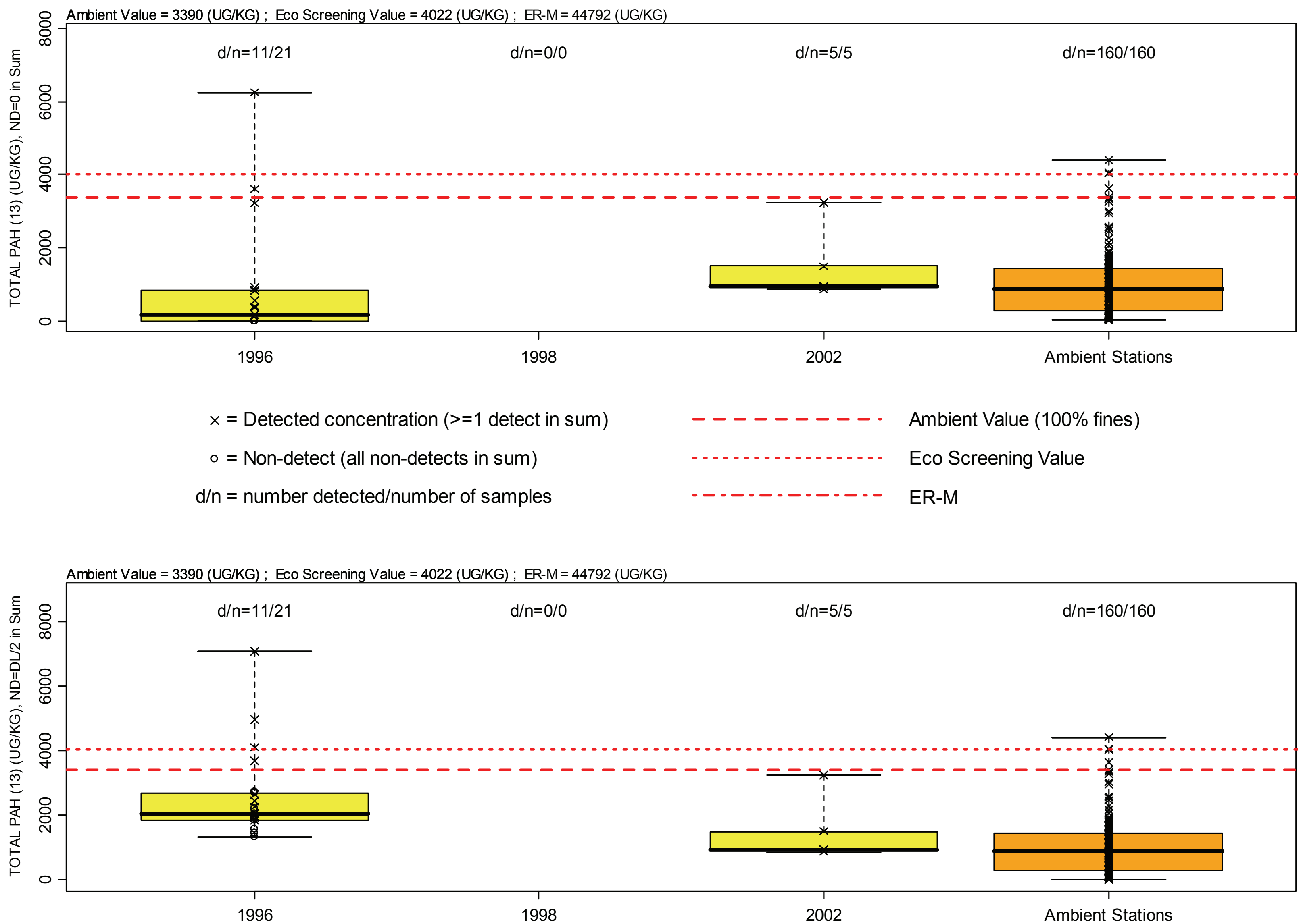
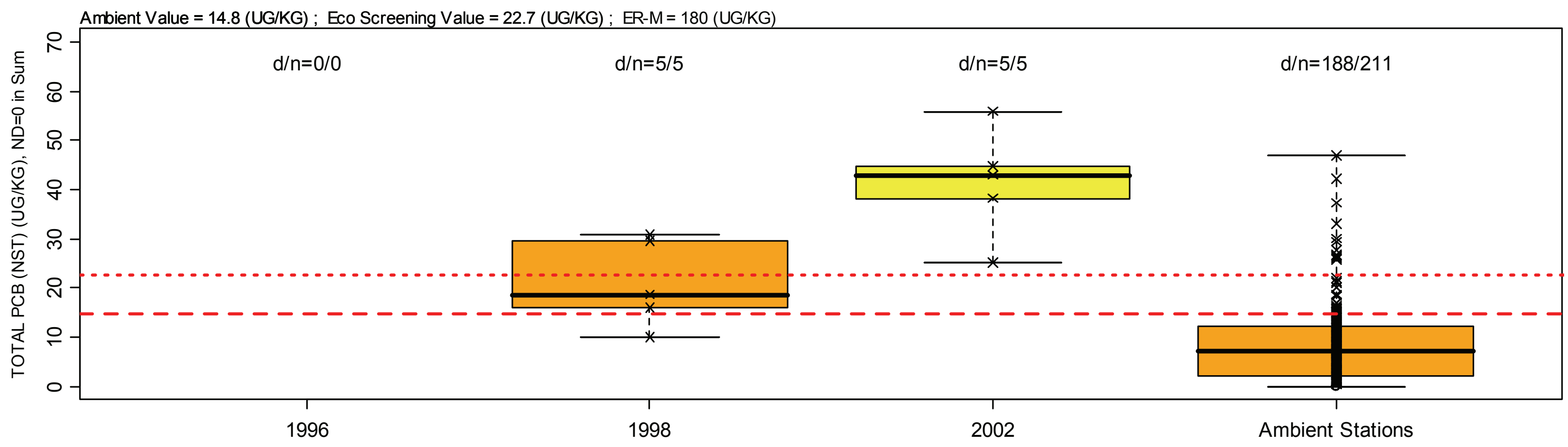


Figure A–262. Box Plots of Total PAH(13) in Breakwater Beach Surface Sediment by Year.



× = Detected concentration (>=1 detect in sum) — Ambient Value (100% fines)

○ = Non-detect (all non-detects in sum) — Eco Screening Value

d/n = number detected/number of samples — ER-M

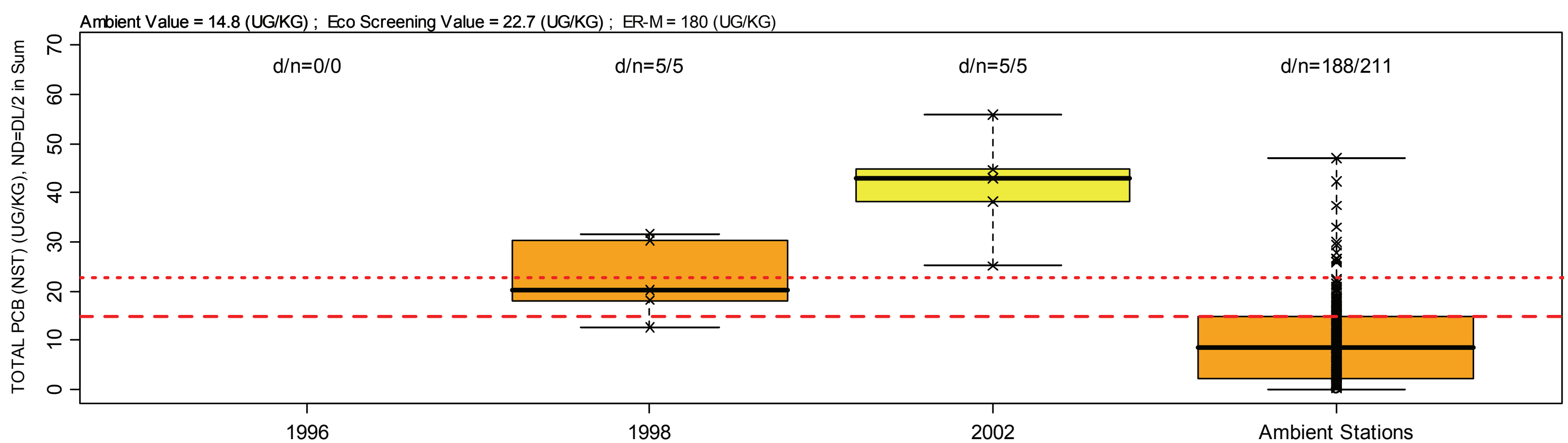


Figure A–263. Box Plots of Total PCB (NST) in Breakwater Beach Surface Sediment by Year.

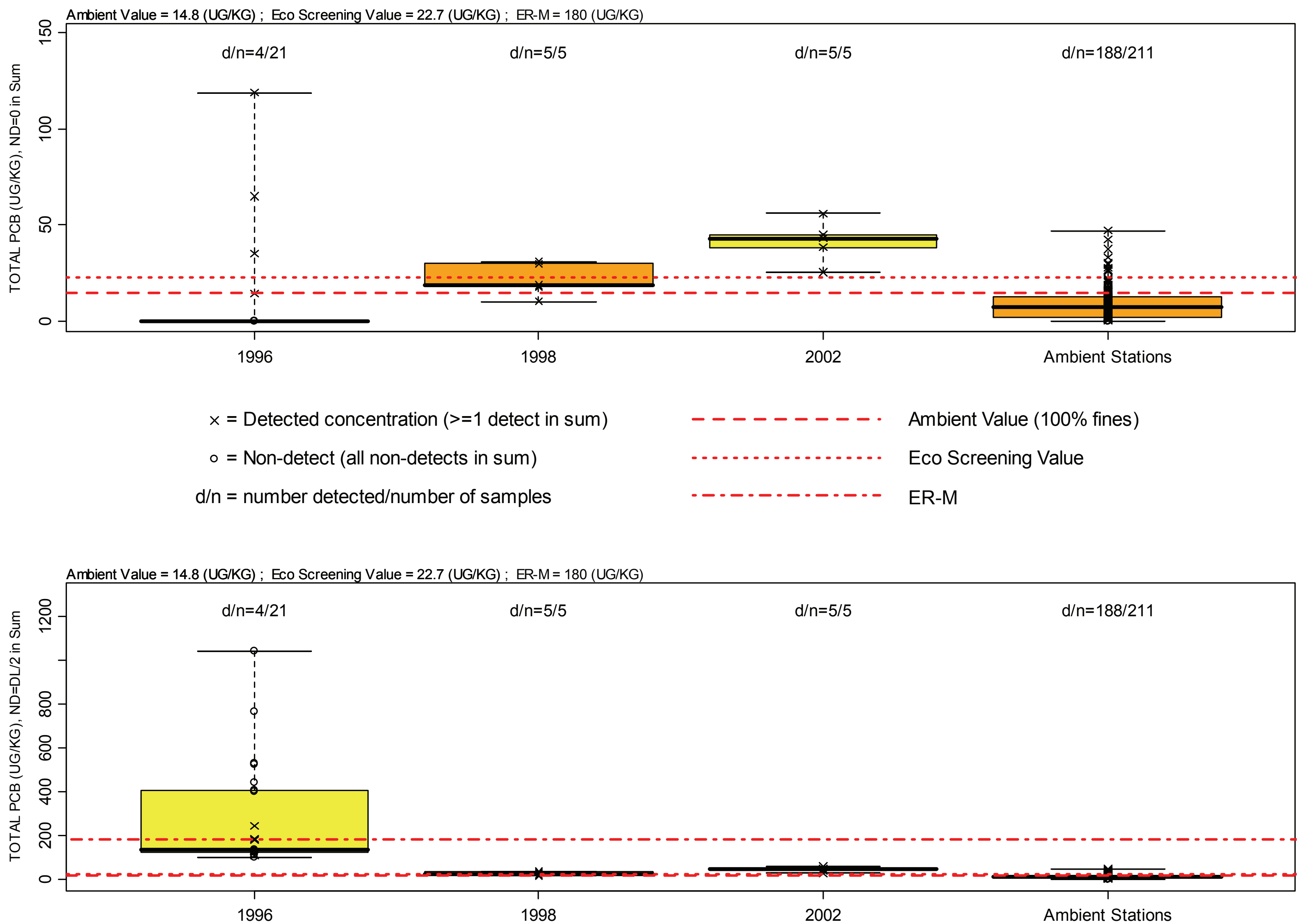


Figure A–264. Box Plots of Total PCB in Breakwater Beach Surface Sediment by Year.

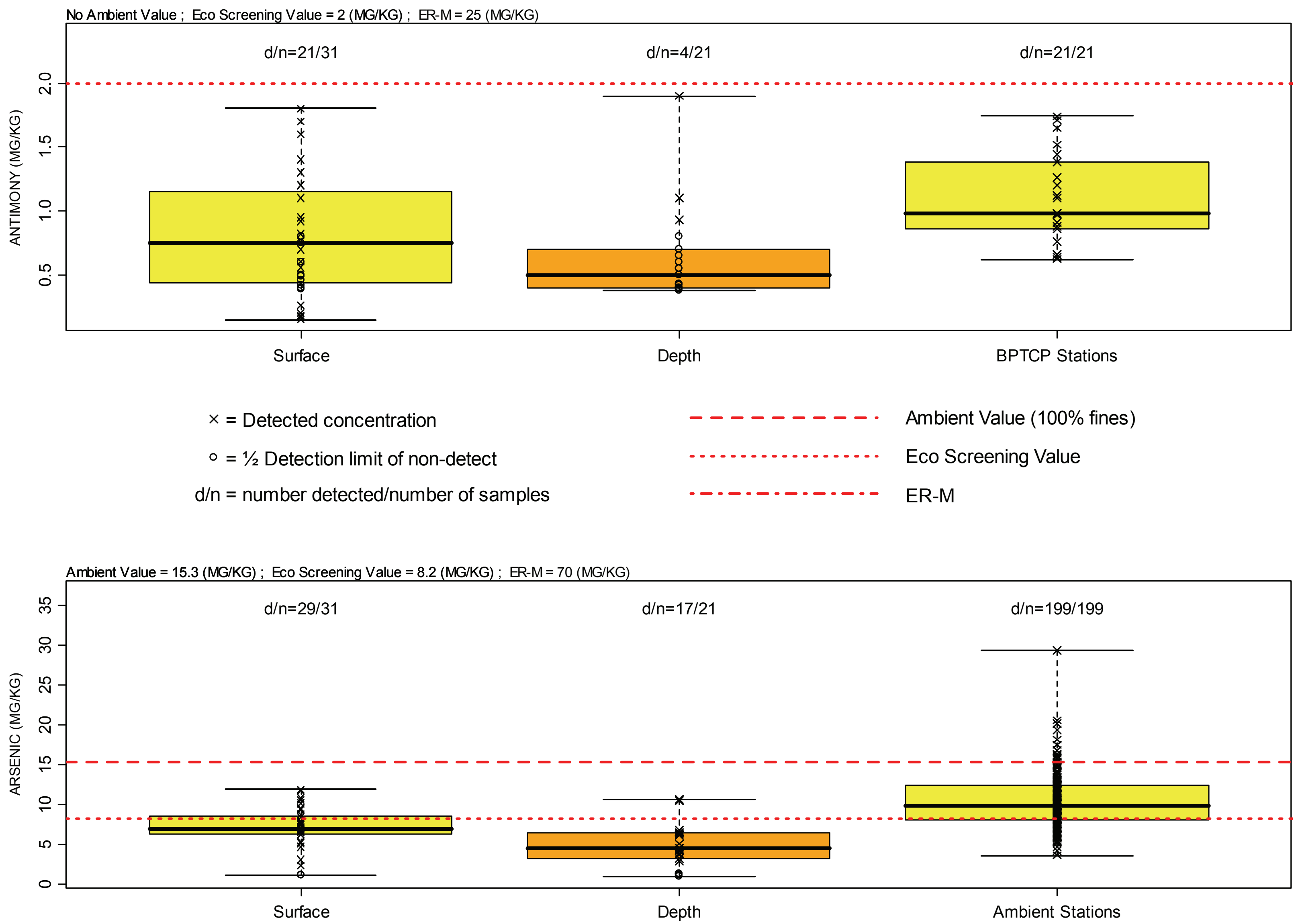


Figure A–265. Box Plots of Antimony and Arsenic in Breakwater Beach by Depth.

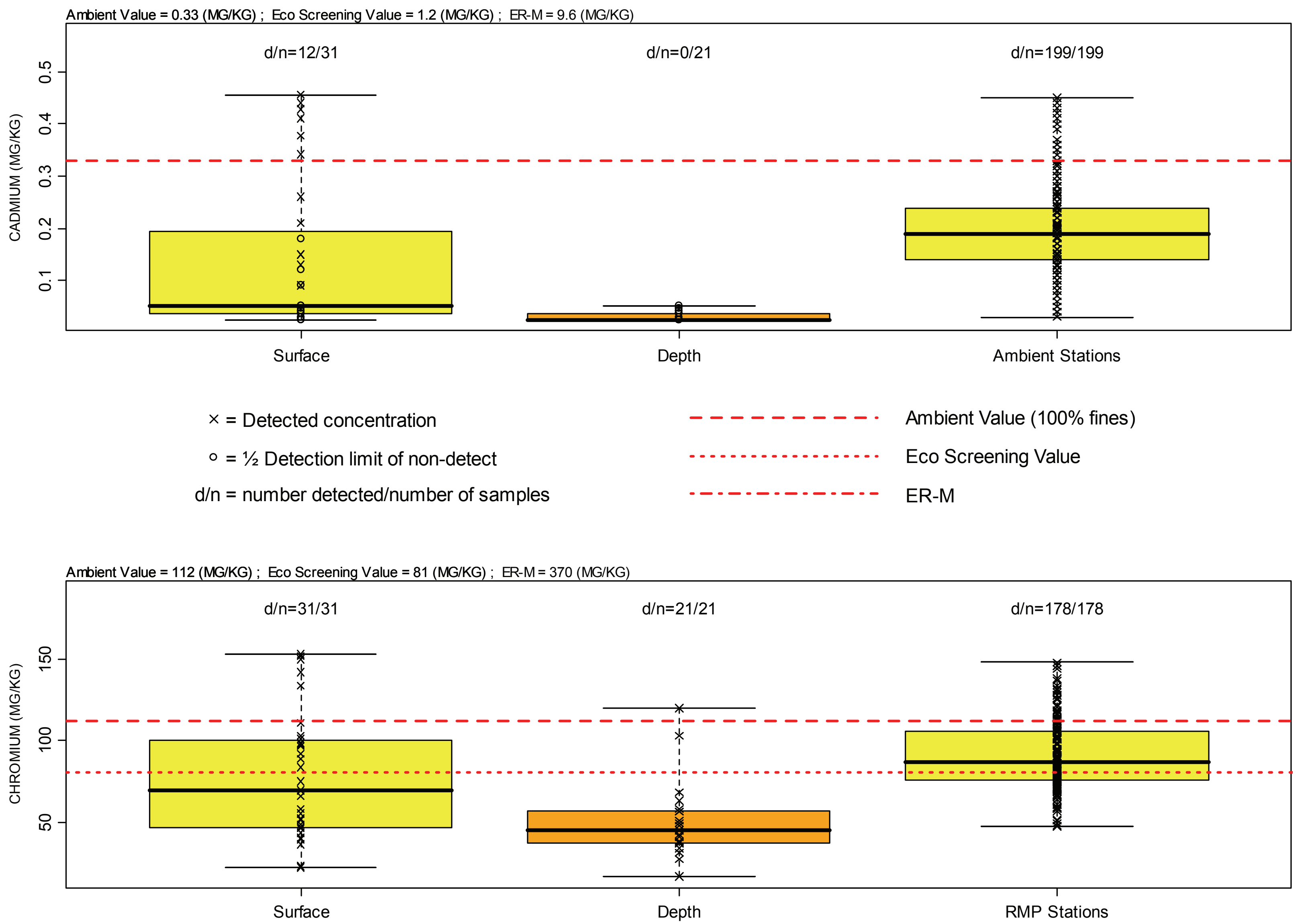


Figure A–266. Box Plots of Cadmium and Chromium Concentrations in Breakwater Beach by Depth.

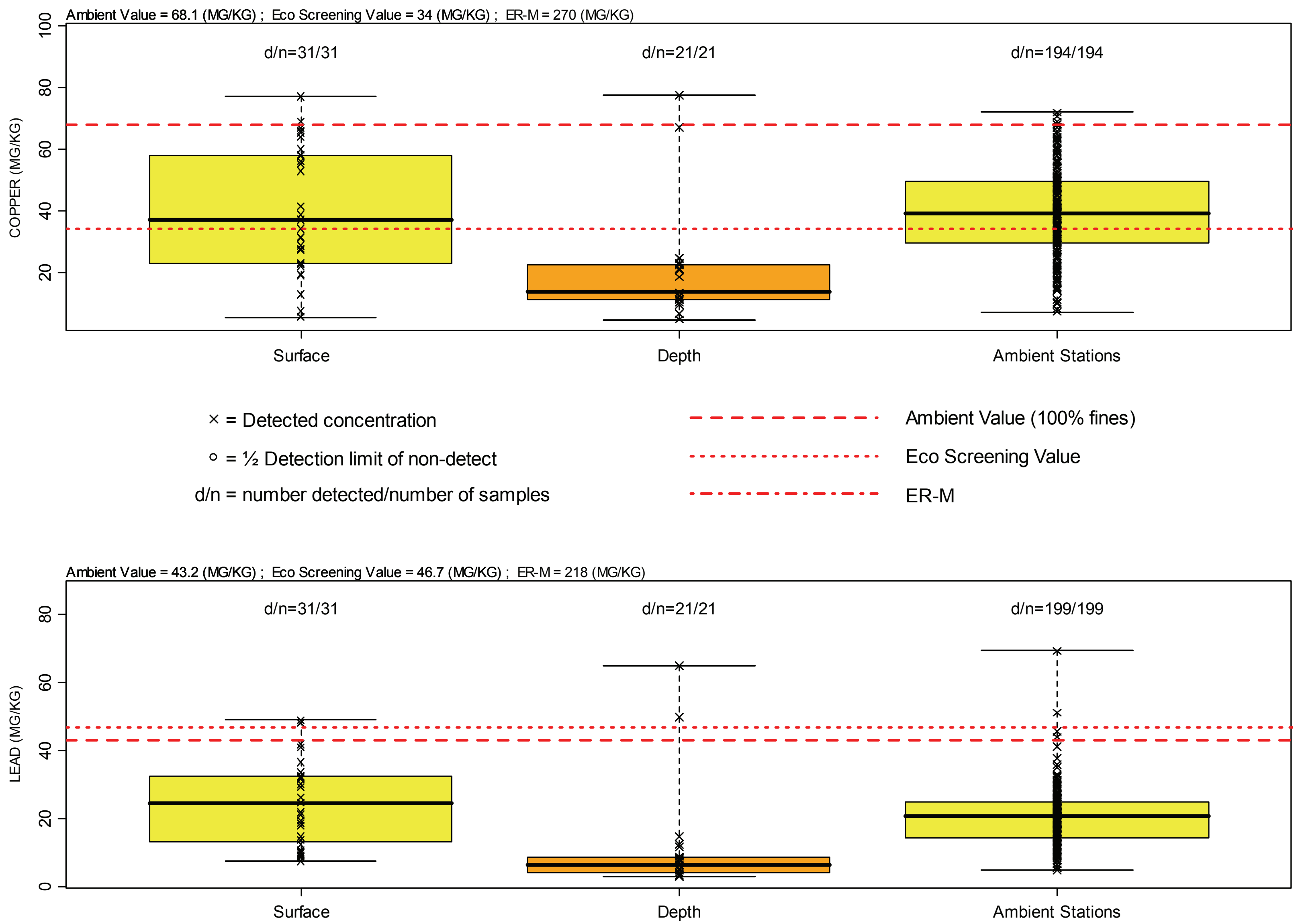
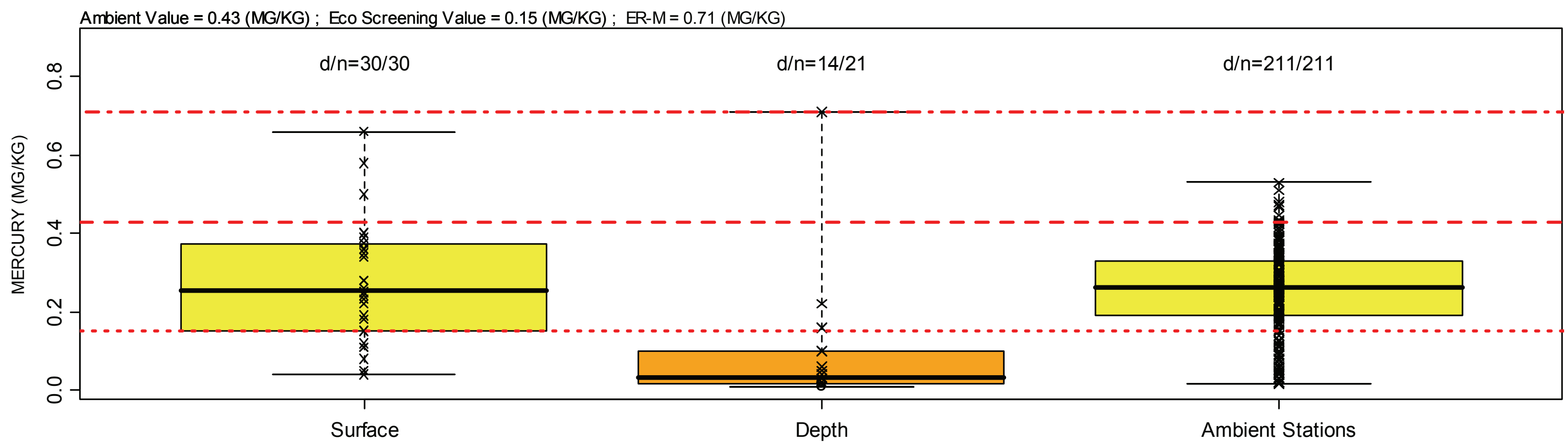


Figure A–267. Box Plots of Copper and Lead Concentrations in Breakwater Beach by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

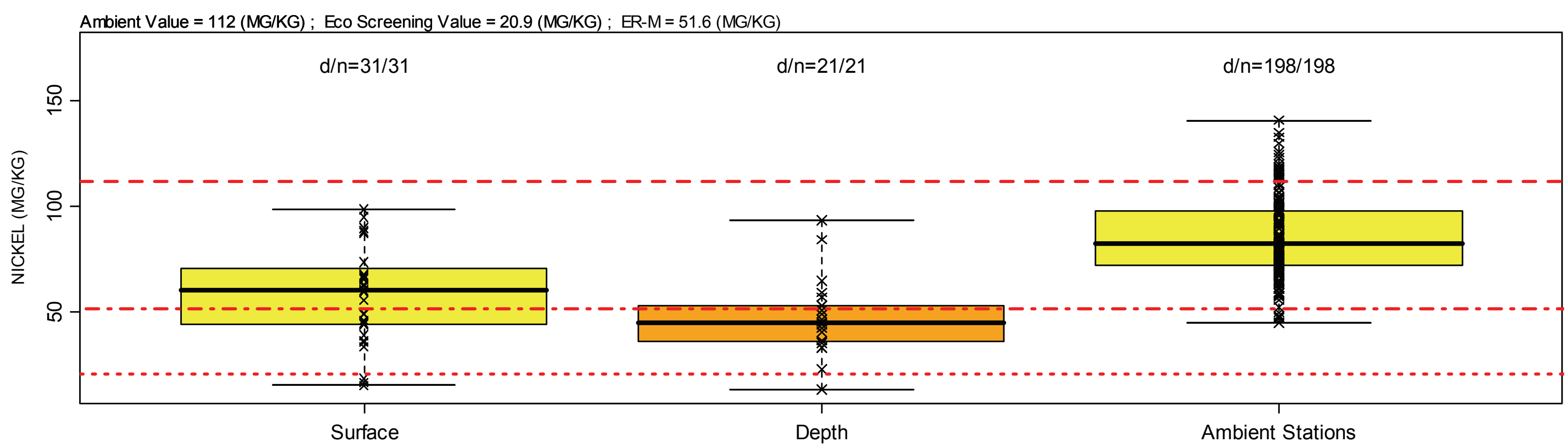


Figure A–268. Box Plots of Mercury and Nickel Concentrations in Breakwater Beach by Depth.

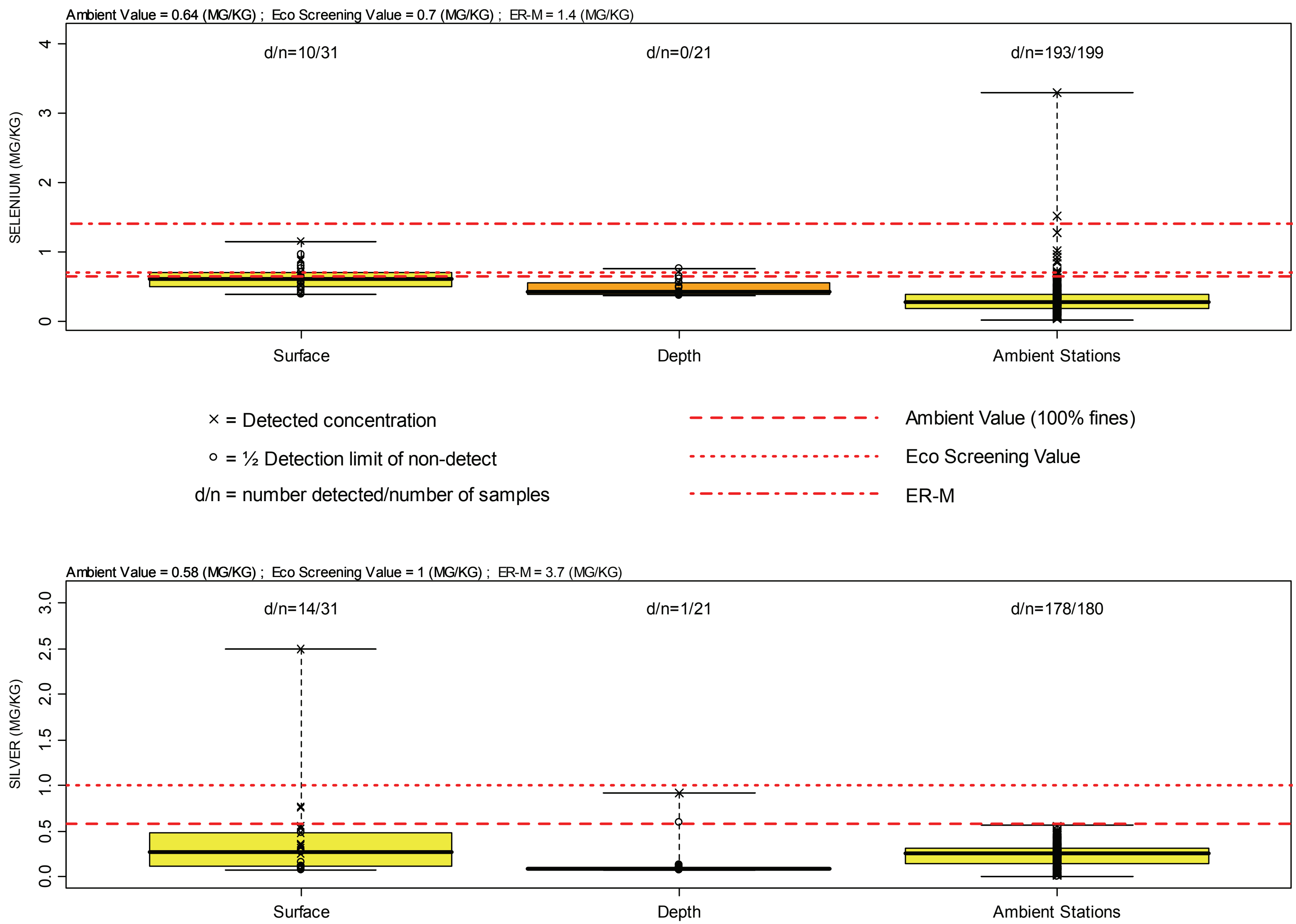


Figure A–269. Box Plots of Selenium and Silver Concentrations in Breakwater Beach by Depth.

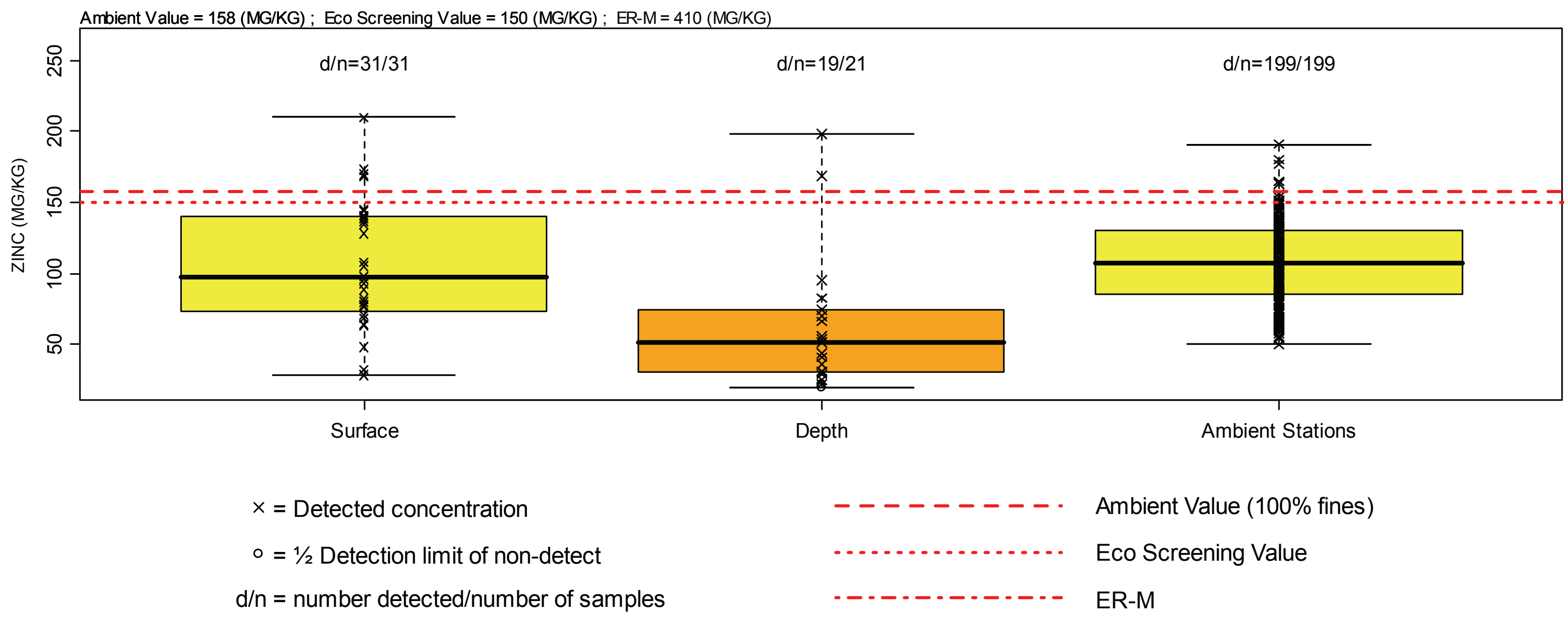


Figure A–270. Box Plots of Zinc Concentrations in Breakwater Beach by Depth.

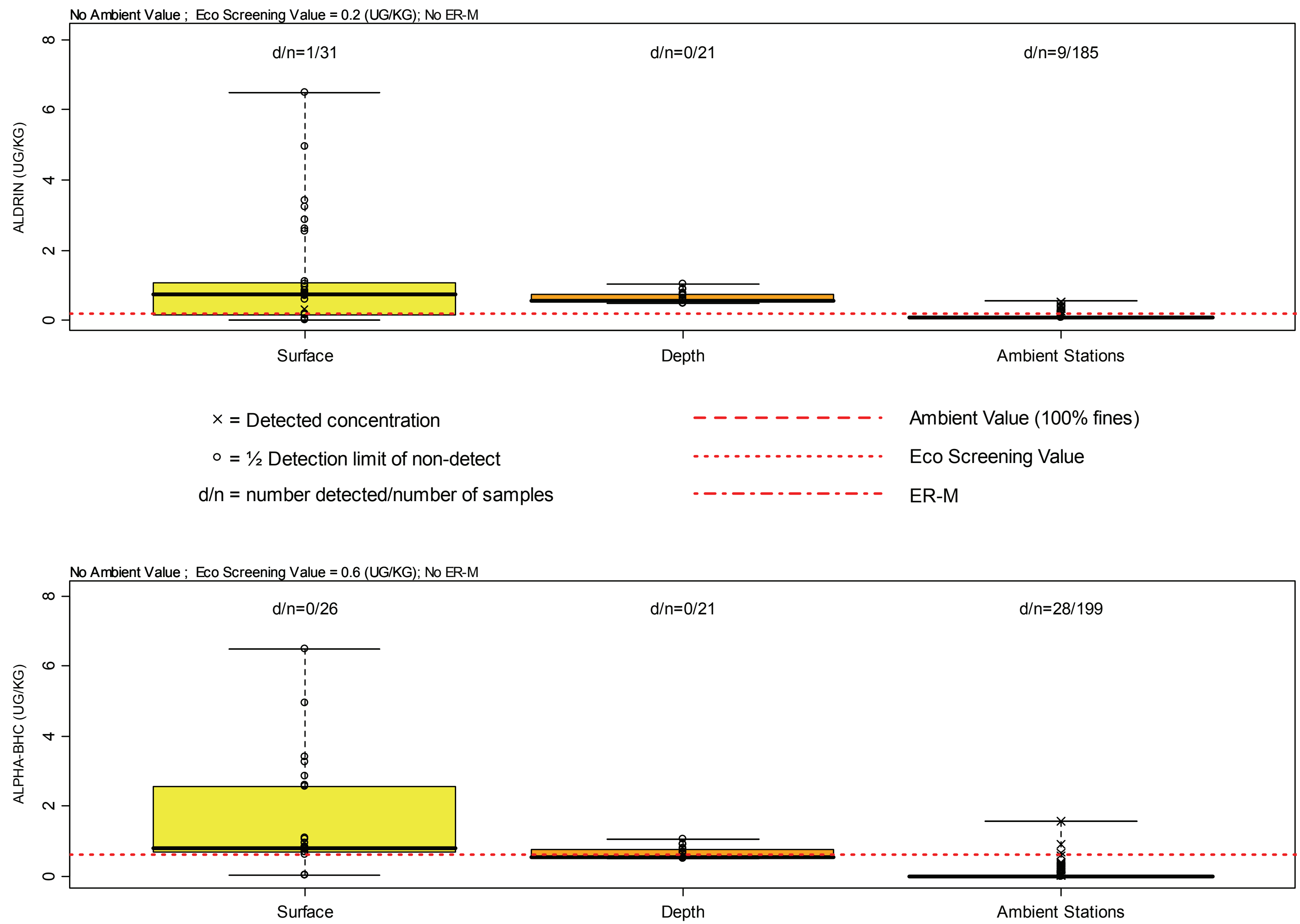


Figure A–271. Box Plots of Aldrin and *alpha*-BHC Concentrations in Breakwater Beach by Depth.

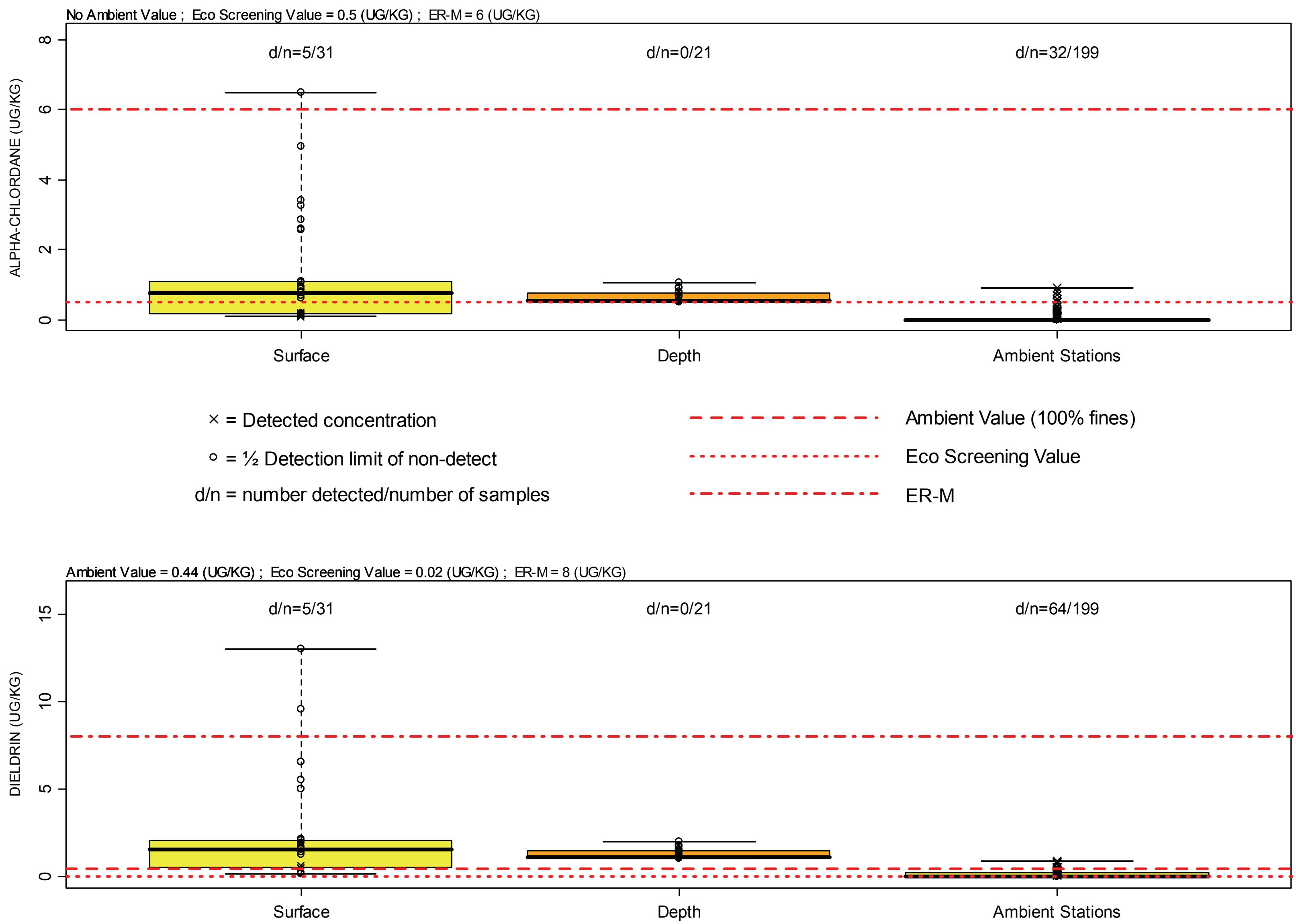


Figure A–272. Box Plots of *alpha*-Chlordane and Dieldrin Concentrations in Breakwater Beach by Depth.

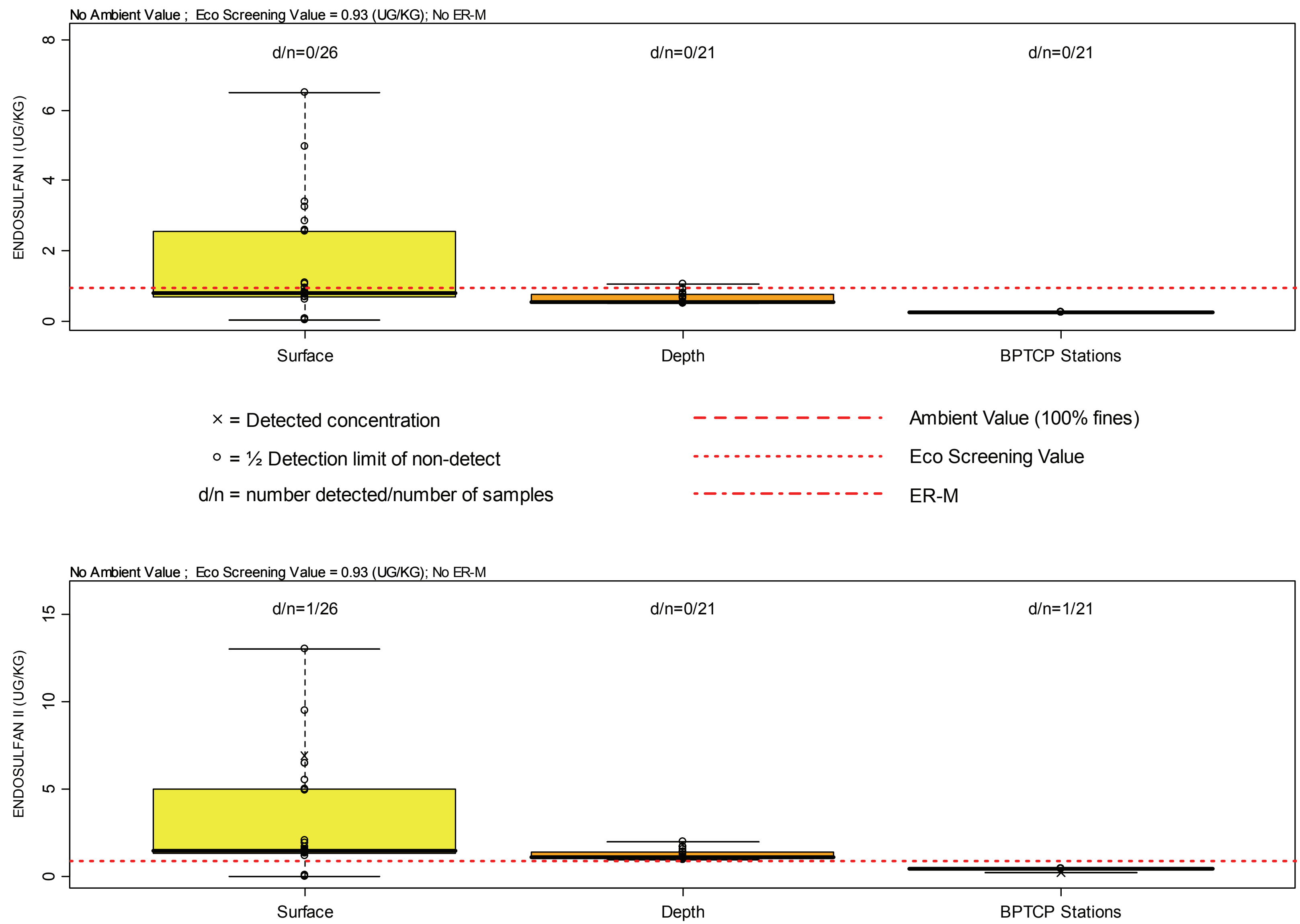


Figure A–273. Box Plots of Endosulfan I and Endosulfan II Concentrations in Breakwater Beach by Depth.

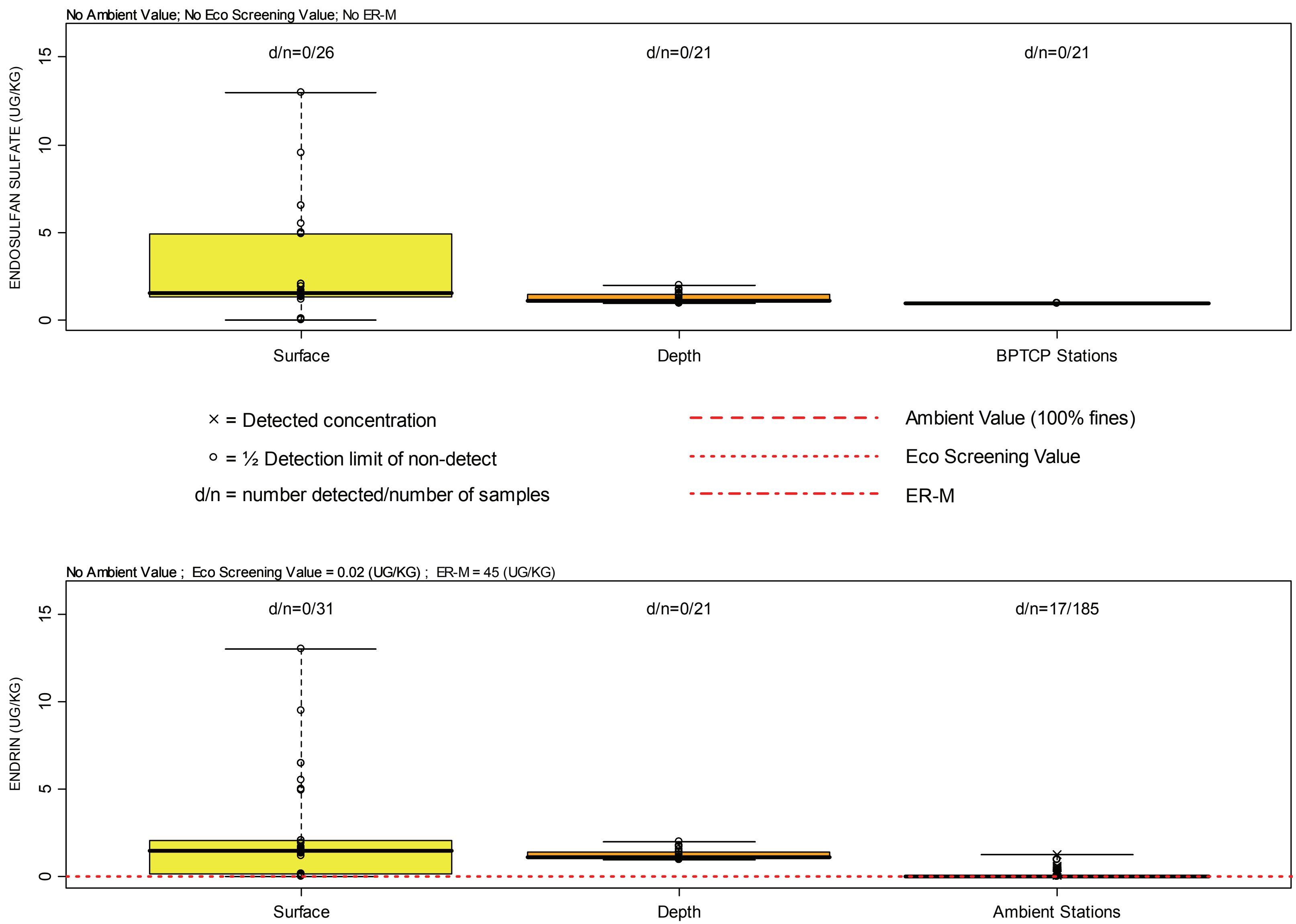


Figure A–274. Box Plots of Endosulfan Sulfate and Endrin Concentrations in Breakwater Beach by Depth.

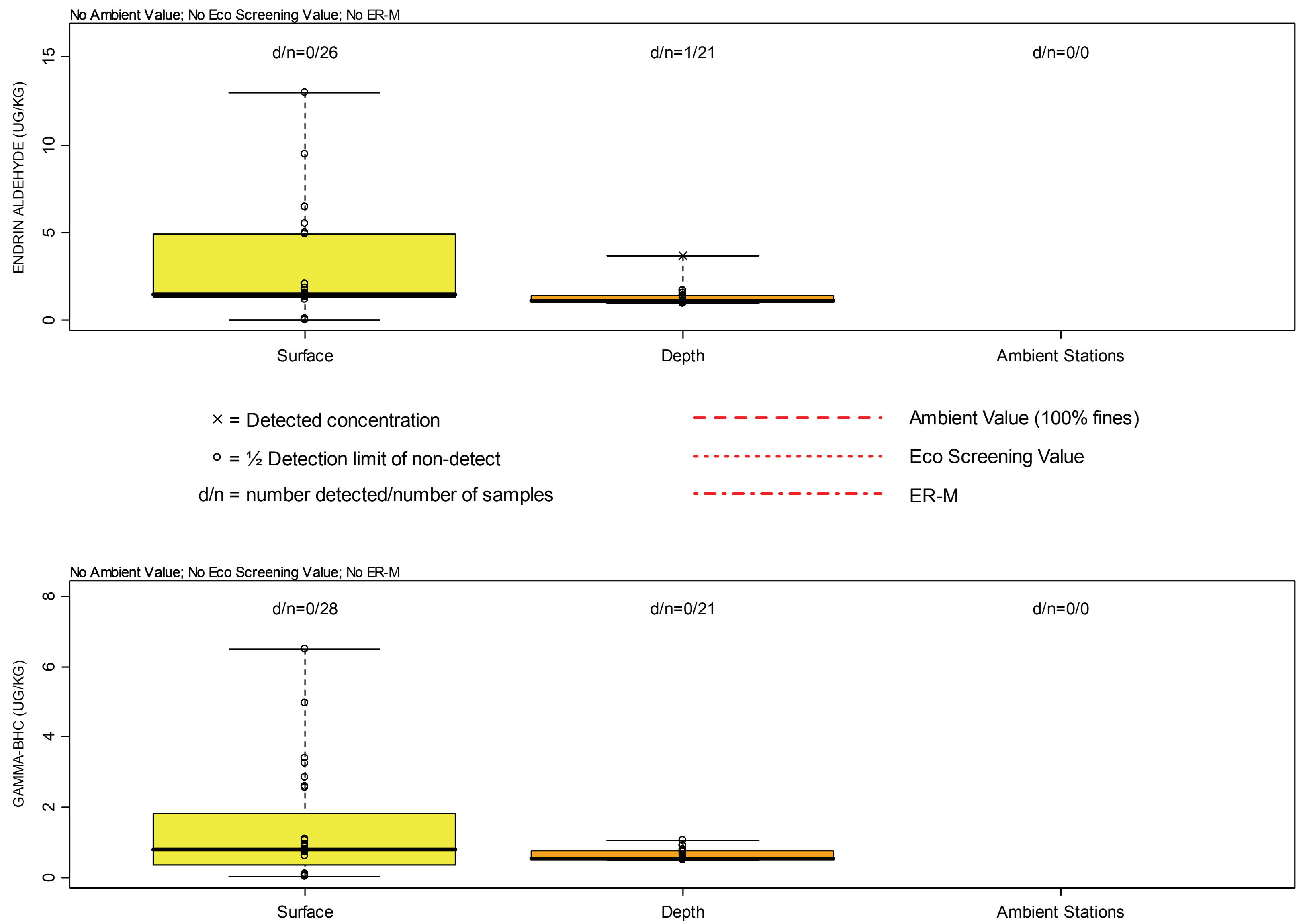


Figure A–275. Box Plots of Endrin Aldehyde and *gamma*-BHC Concentrations in Breakwater Beach by Depth.

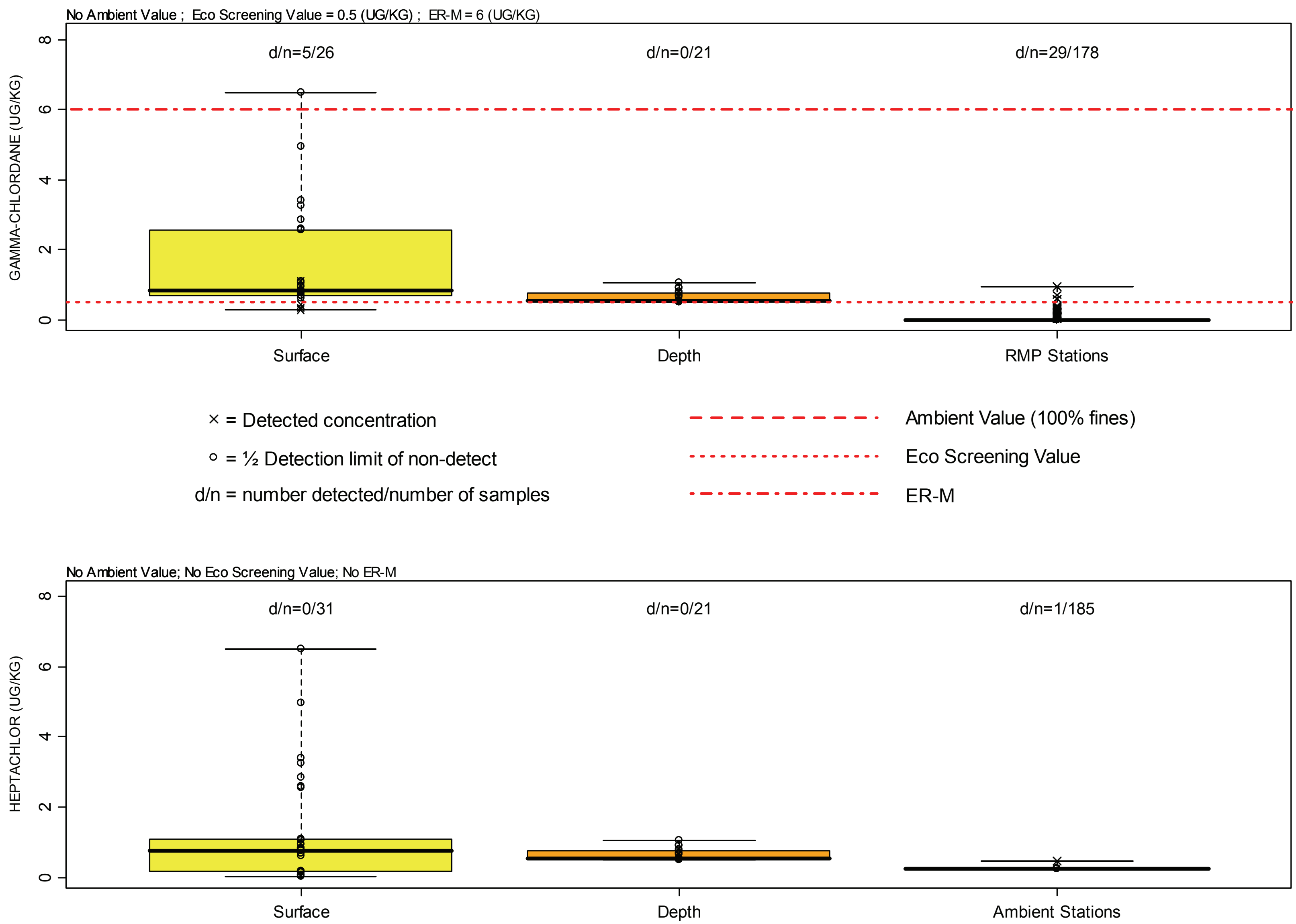


Figure A–276. Box Plots of *gamma*-Chlordane and Heptachlor Concentrations in Breakwater Beach by Depth.

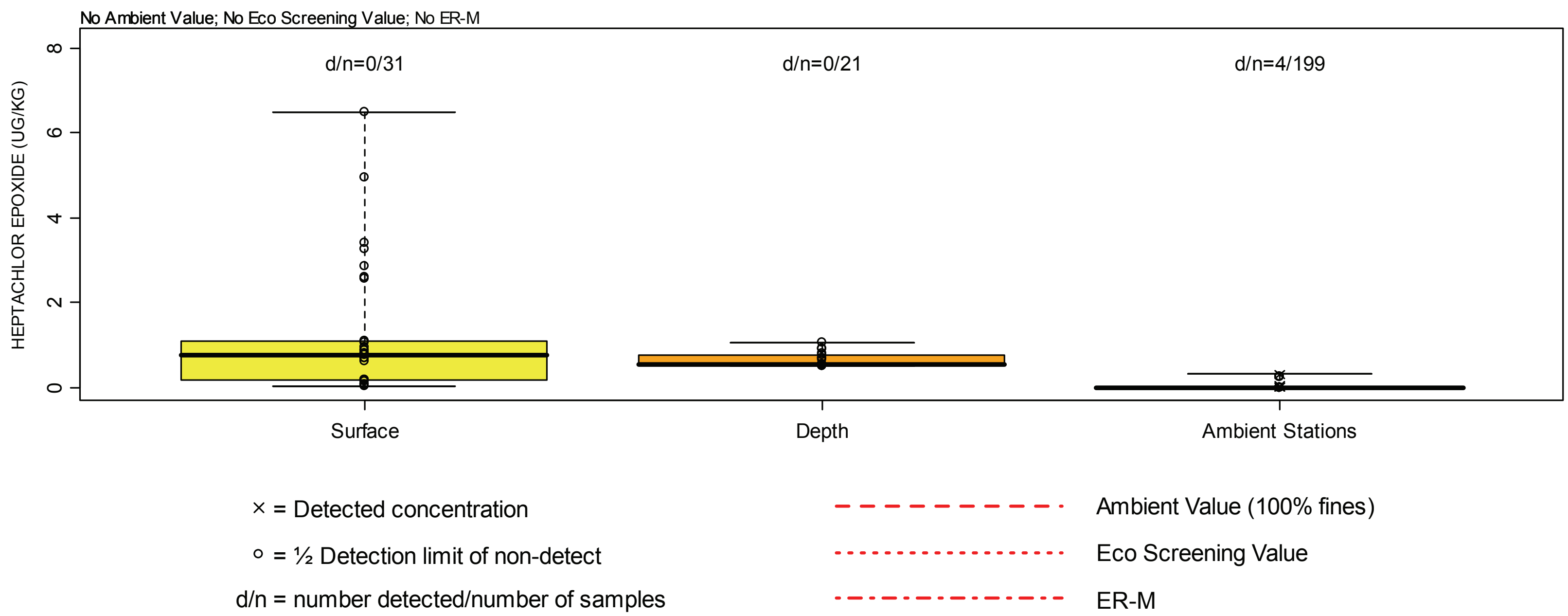


Figure A–277. Box Plots of Heptachlor Epoxide Concentrations in Breakwater Beach by Depth.

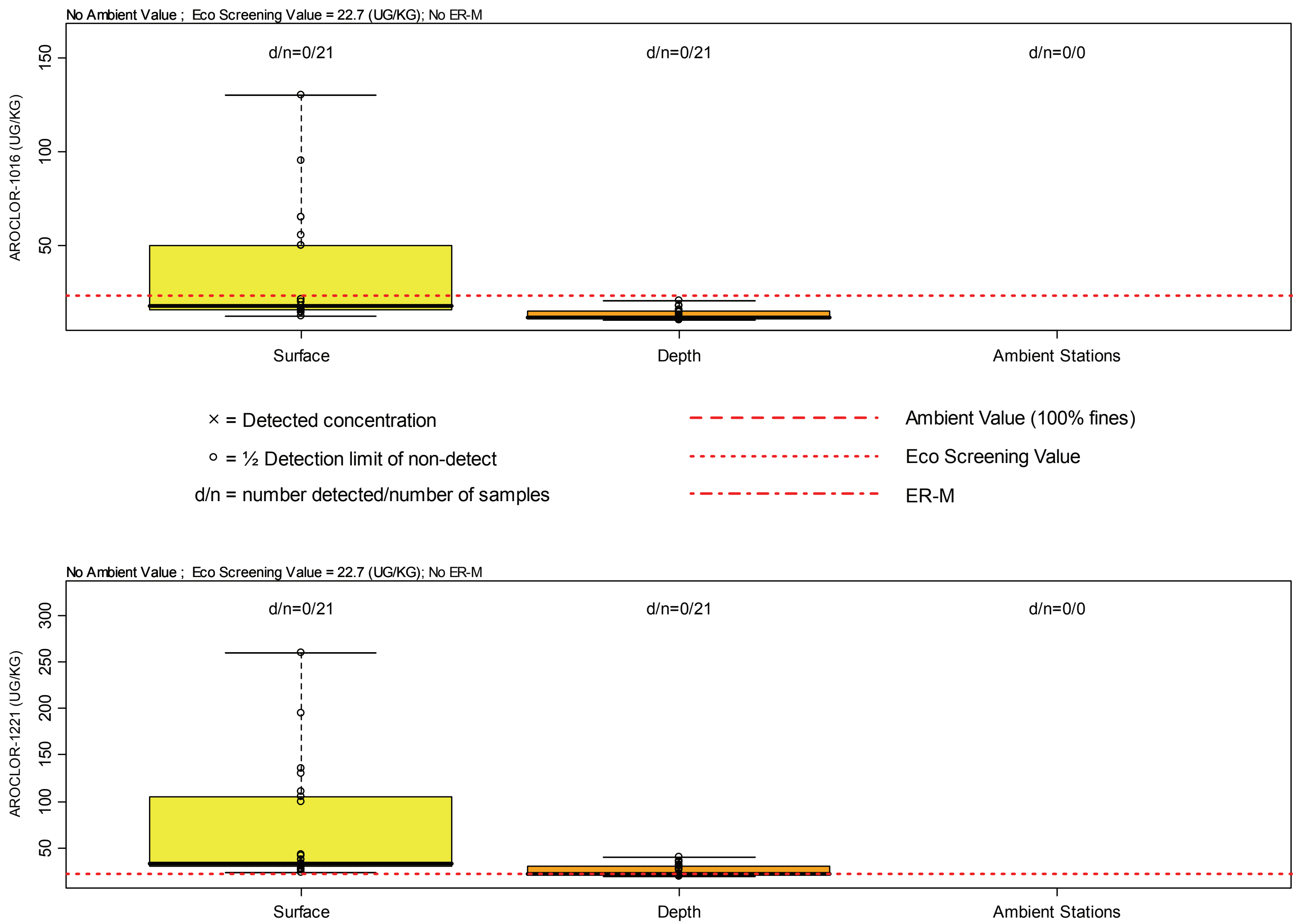
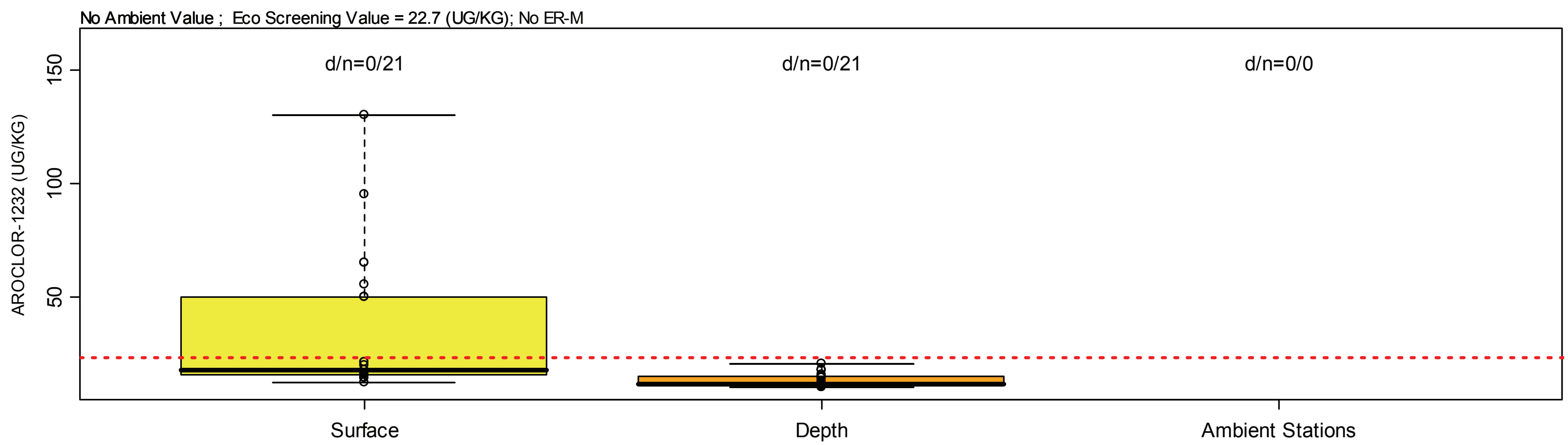


Figure A–278. Box Plots of Aroclor-1016 and Aroclor-1221 Concentrations in Breakwater Beach by Depth.



× = Detected concentration
○ = ½ Detection limit of non-detect
d/n = number detected/number of samples

Ambient Value (100% fines)
Eco Screening Value
ER-M

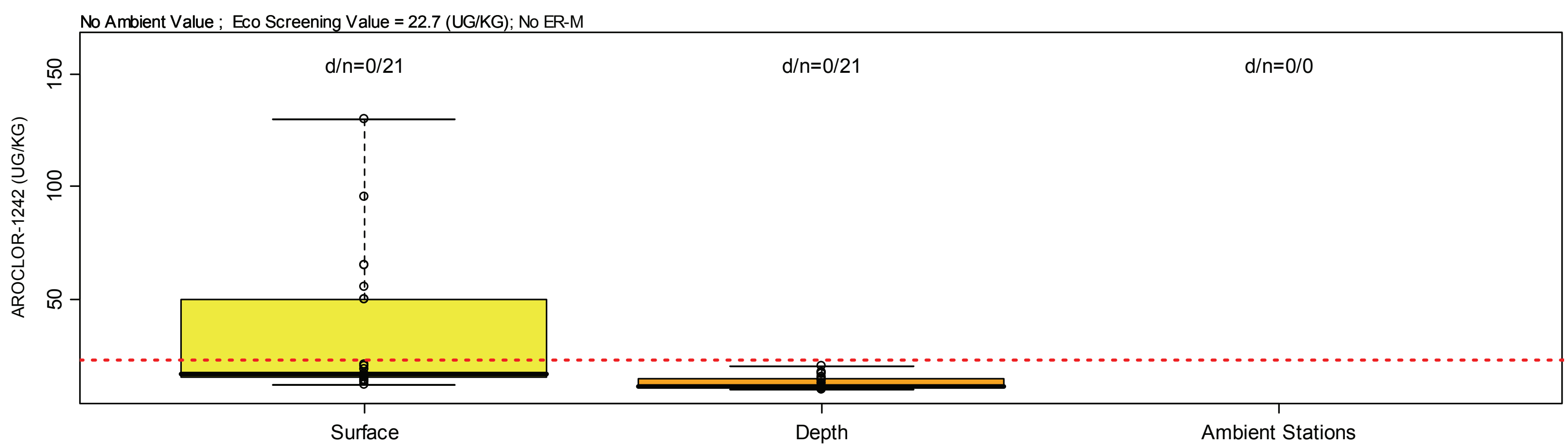


Figure A–279. Box Plots of Aroclor-1232 and Aroclor-1242 Concentrations in Breakwater Beach by Depth.

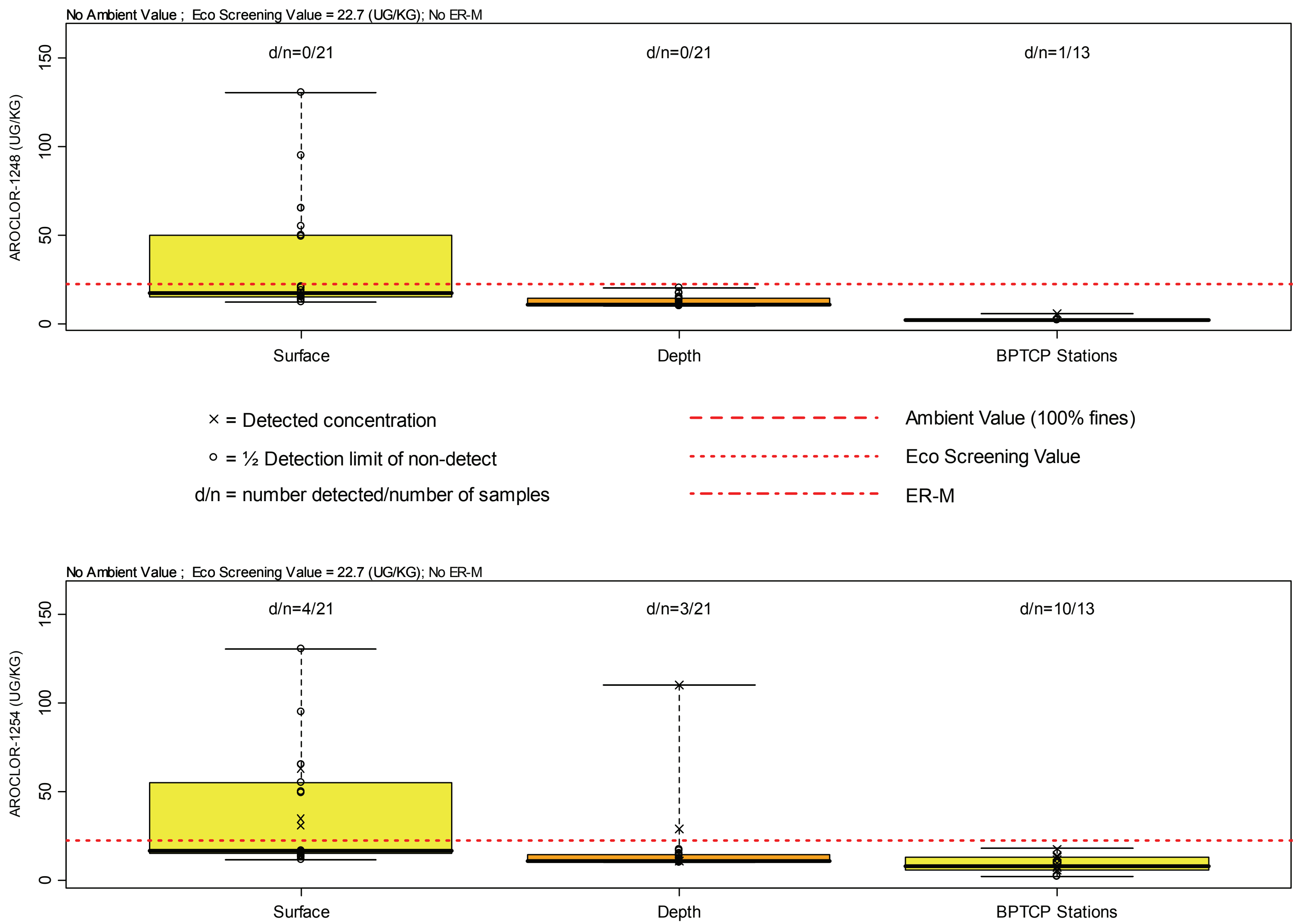


Figure A–280. Box Plots of Aroclor-1248 and Aroclor-1254 Concentrations in Breakwater Beach by Depth.

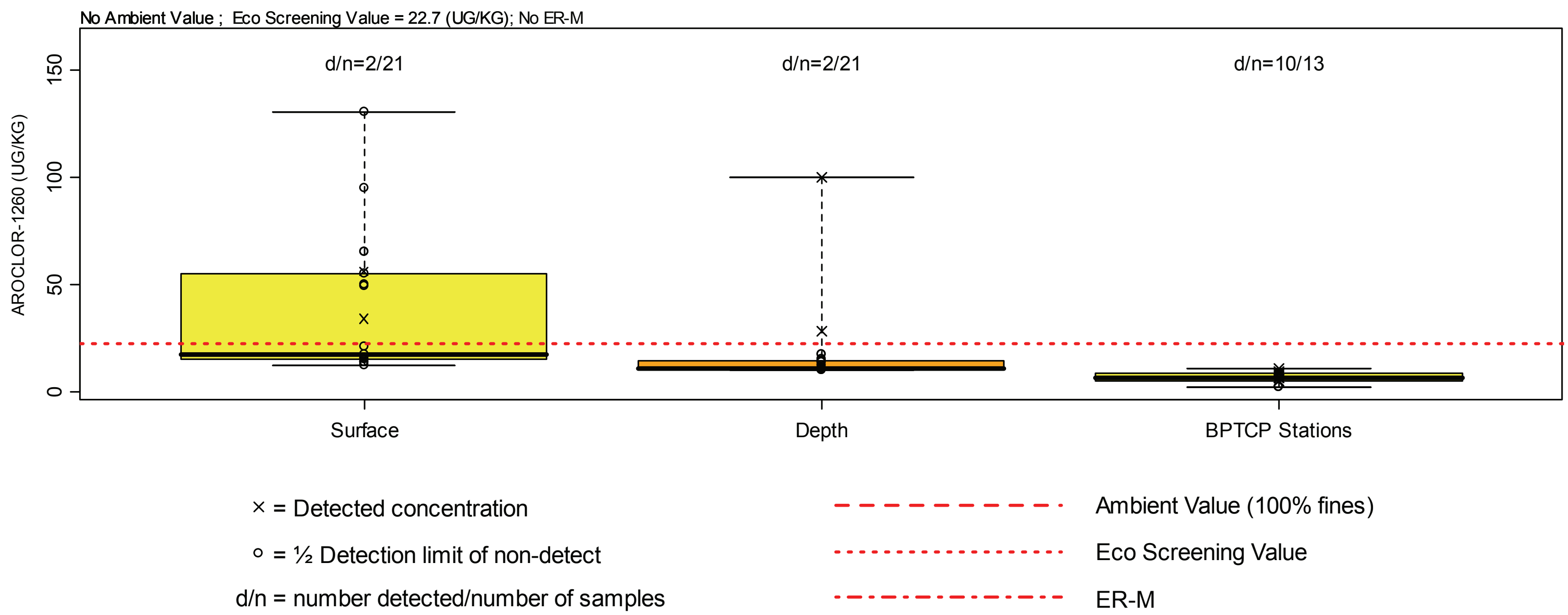


Figure A–281. Box Plots of Aroclor-1260 Concentrations in Breakwater Beach by Depth.

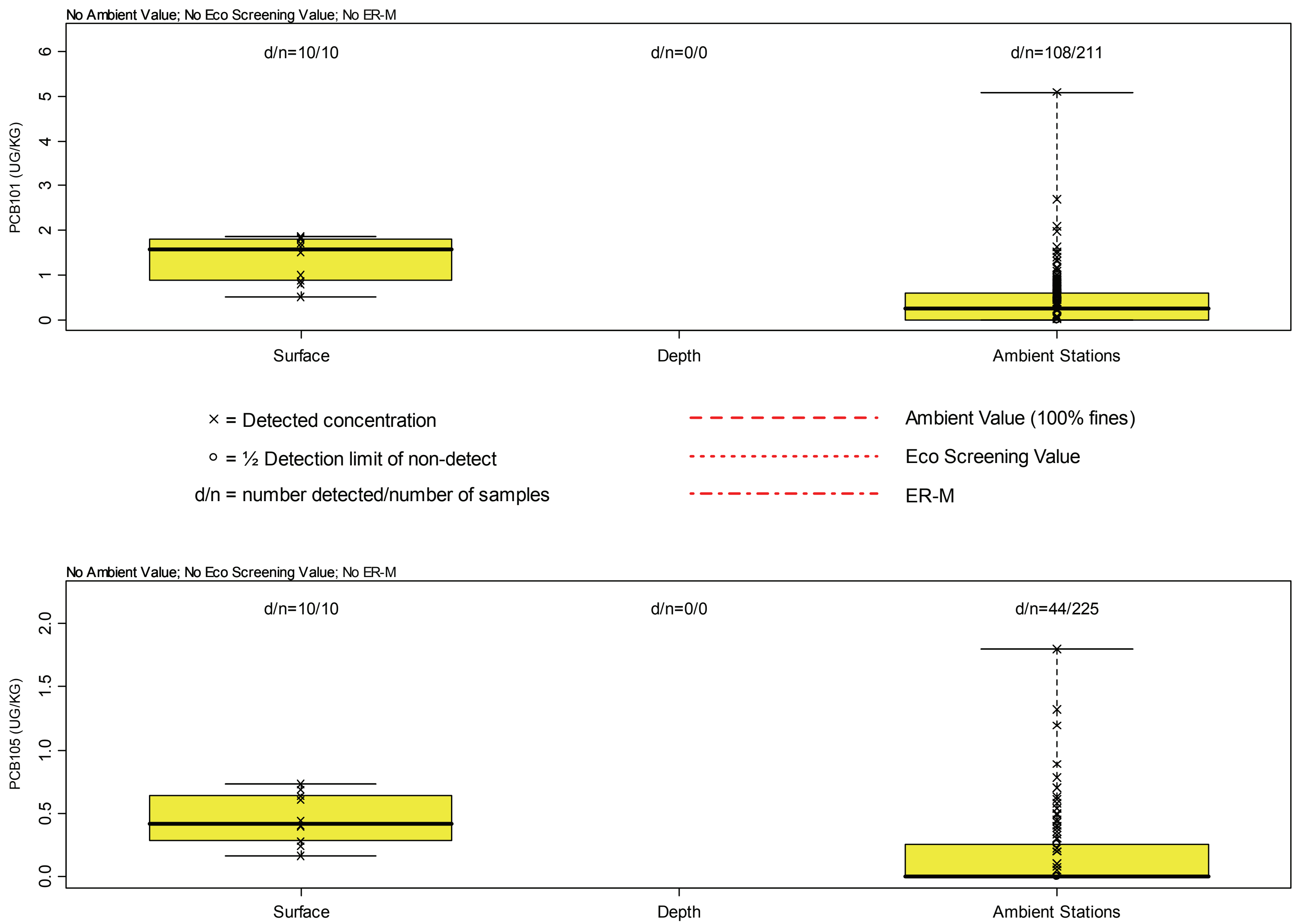


Figure A–282. Box Plots of PCB101 and PCB105 Concentrations in Breakwater Beach by Depth.

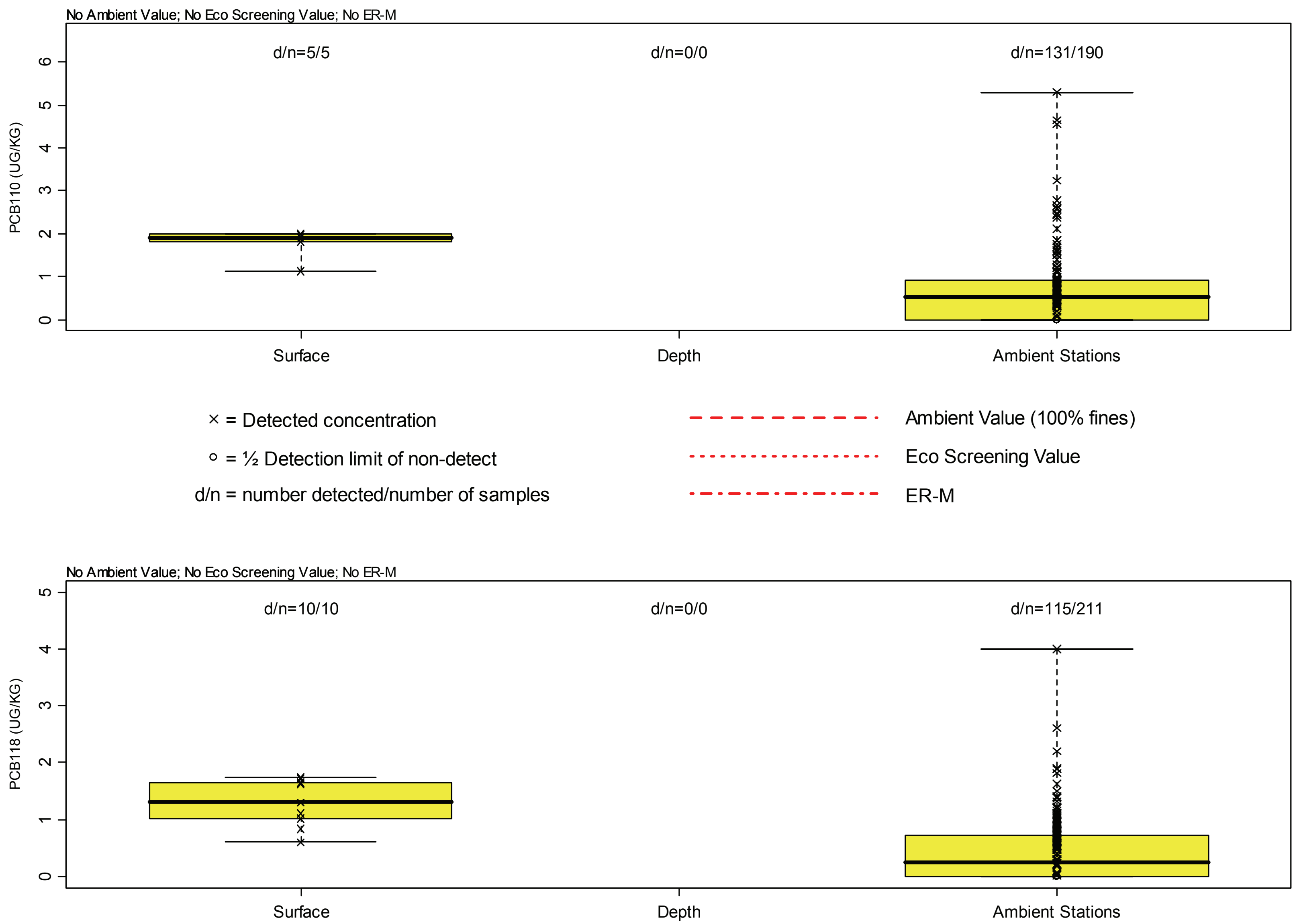


Figure A–283. Box Plots of PCB110 and PCB118 Concentrations in Breakwater Beach by Depth.

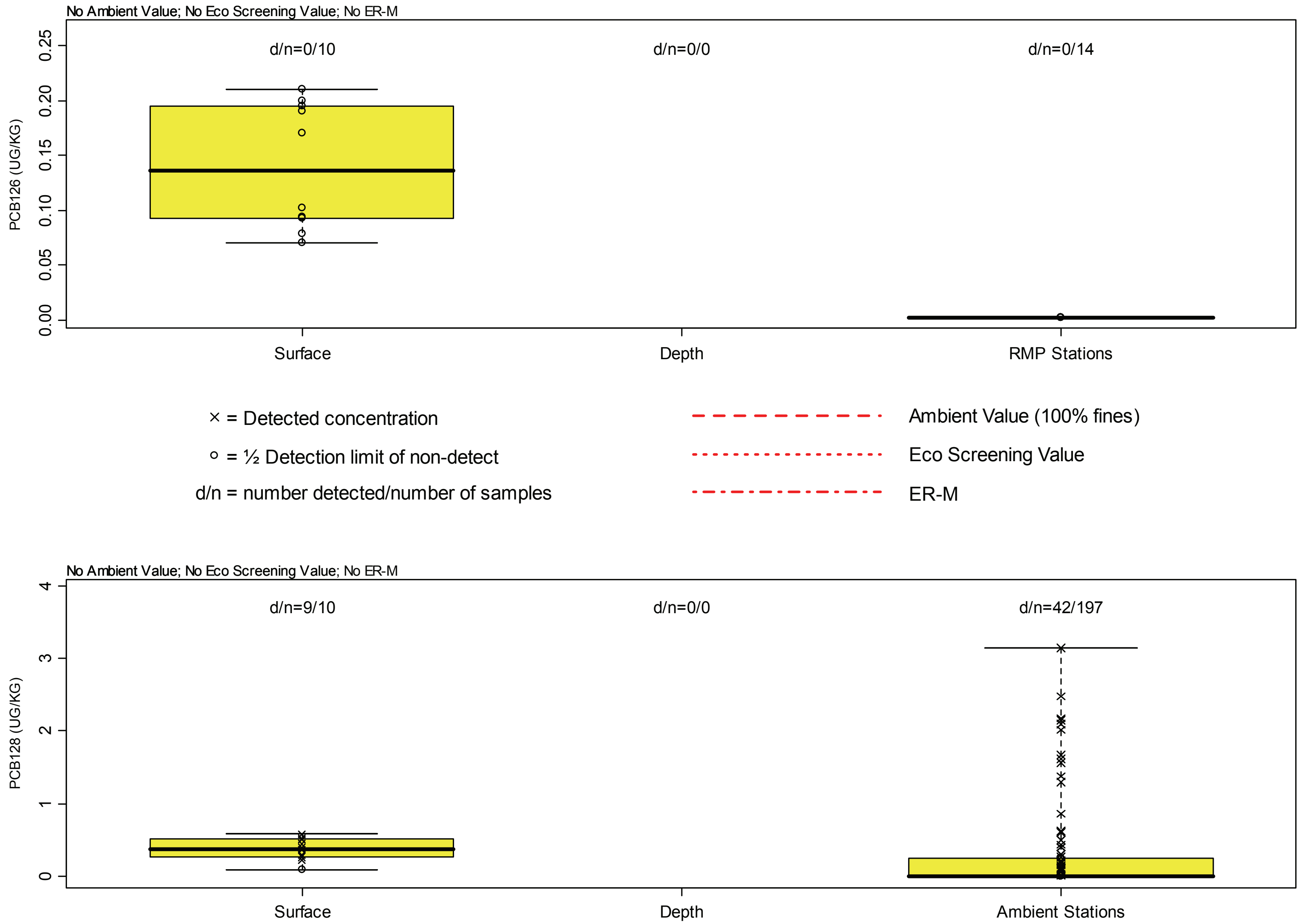


Figure A–284. Box Plots of PCB126 and PCB128 Concentrations in Breakwater Beach by Depth.

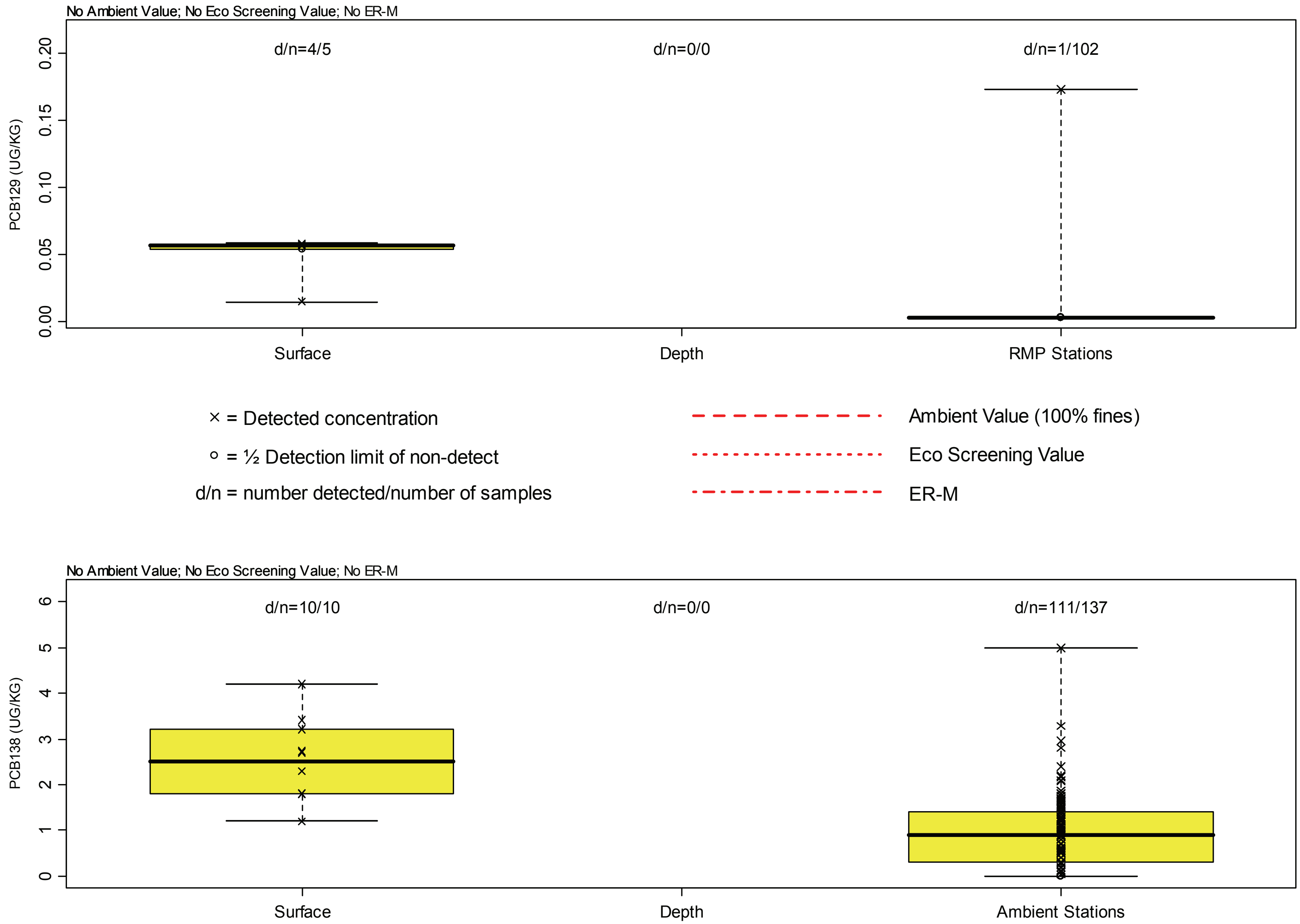


Figure A–285. Box Plots of PCB129 and PCB138 Concentrations in Breakwater Beach by Depth.

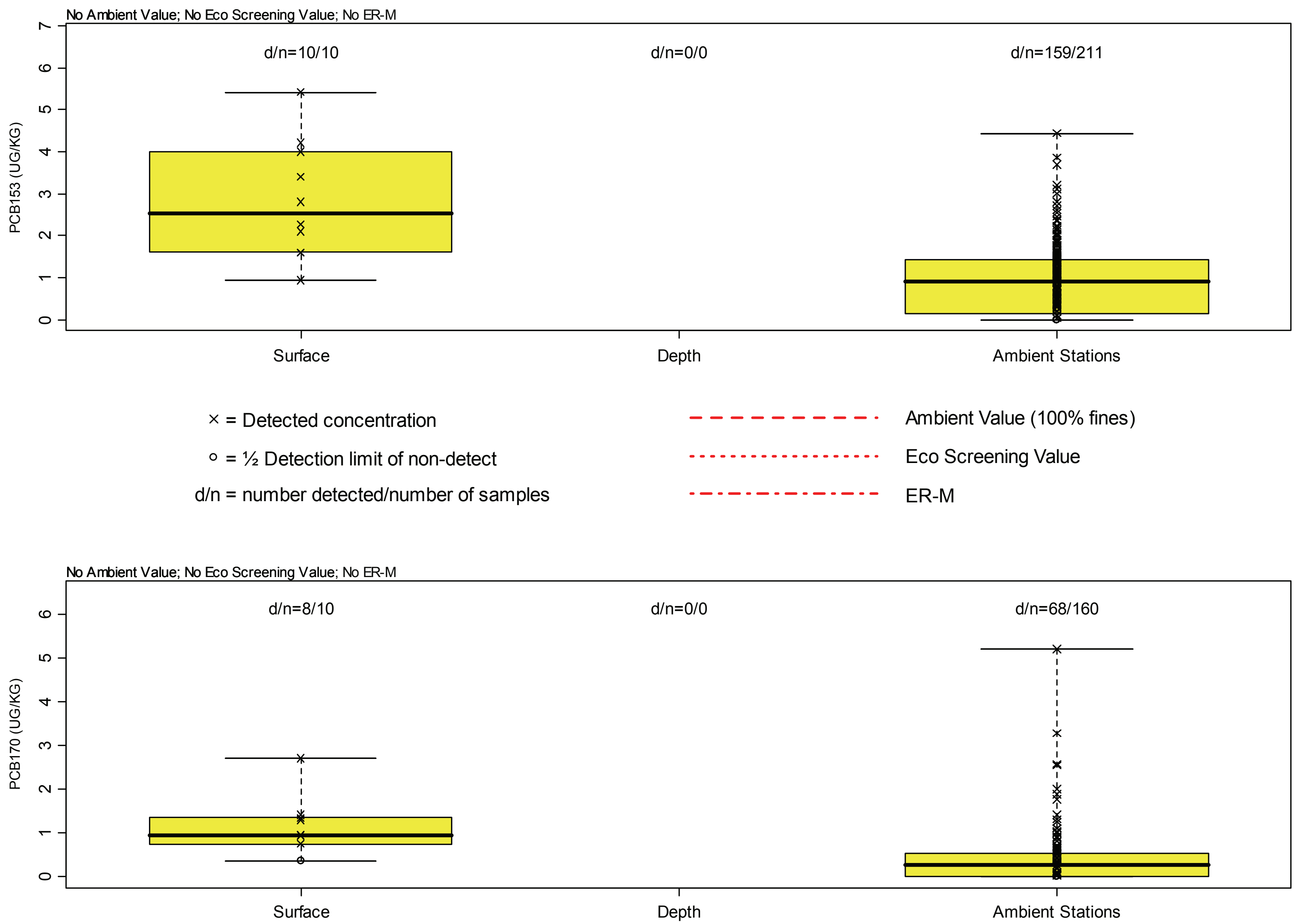


Figure A–286. Box Plots of PCB153 and PCB170 Concentrations in Breakwater Beach by Depth.

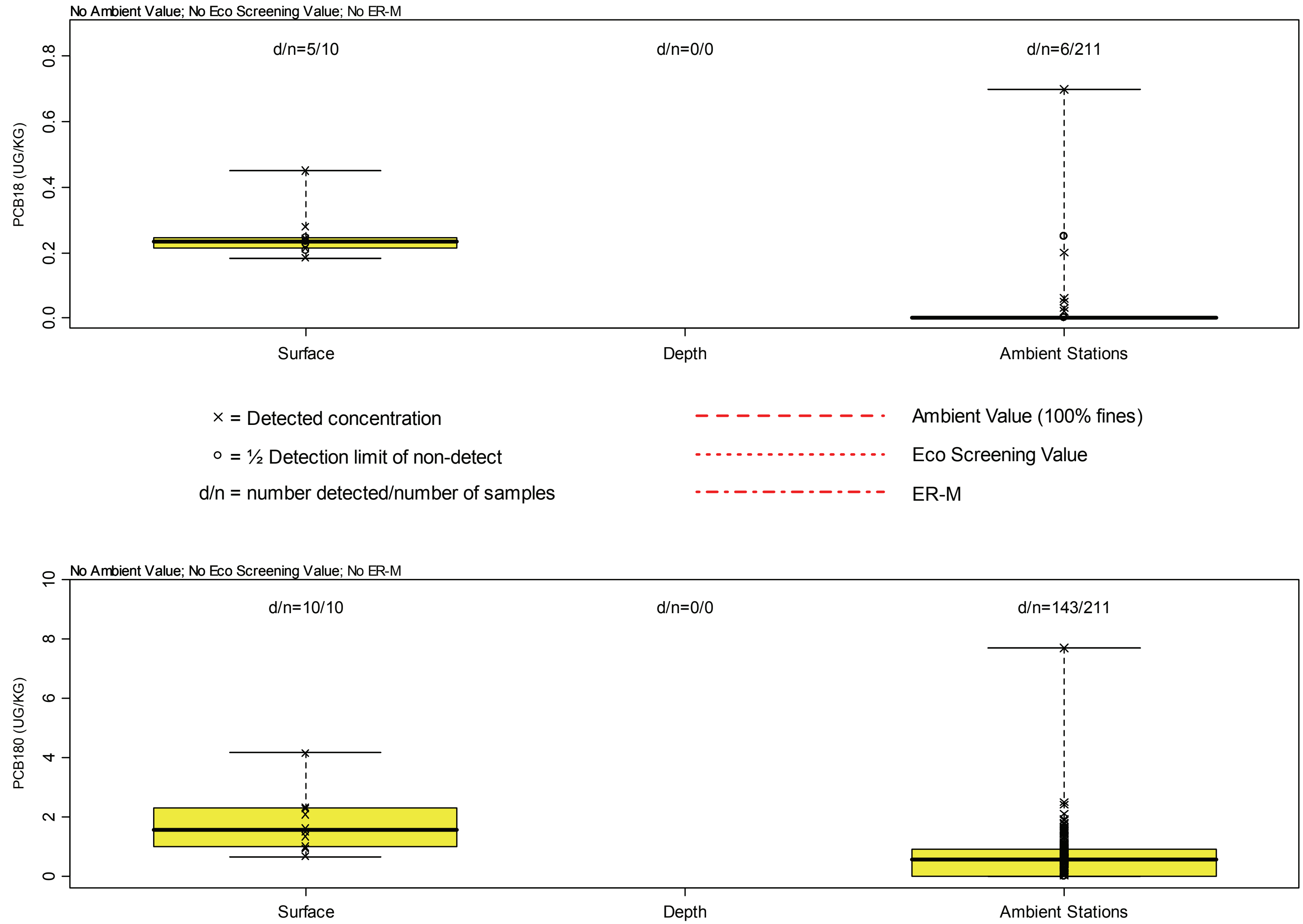
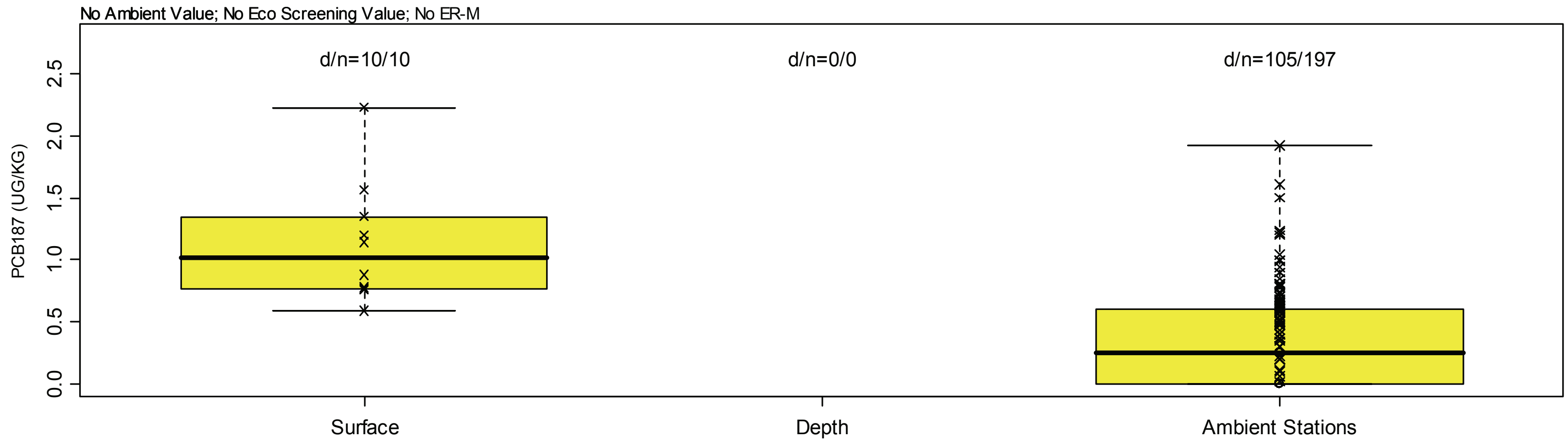


Figure A–287. Box Plots of PCB18 and PCB180 Concentrations in Breakwater Beach by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

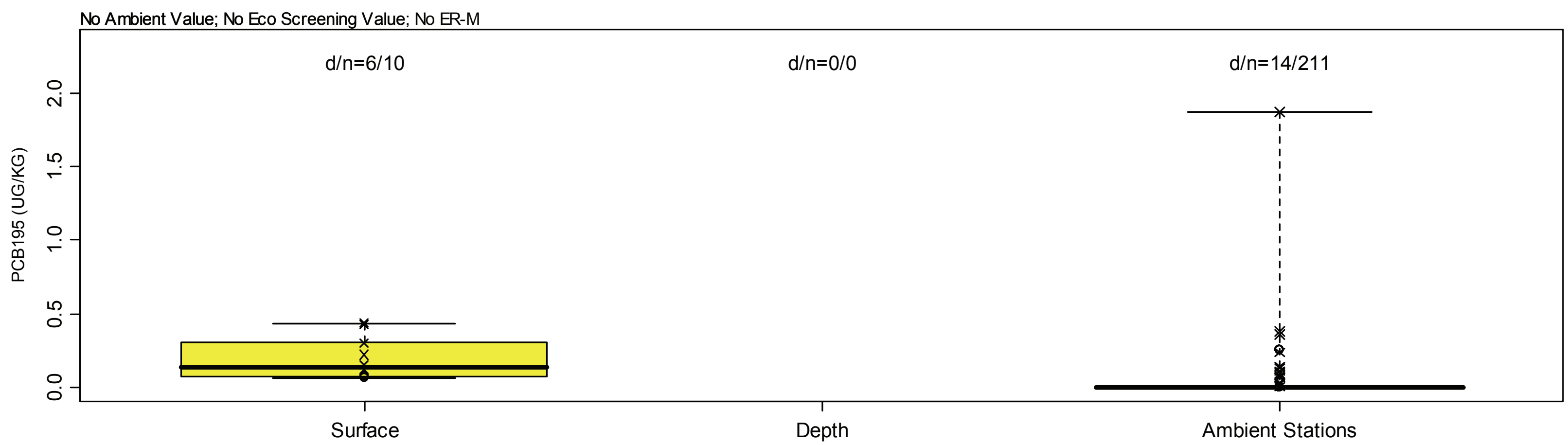


Figure A–288. Box Plots of PCB187 and PCB195 Concentrations in Breakwater Beach by Depth.

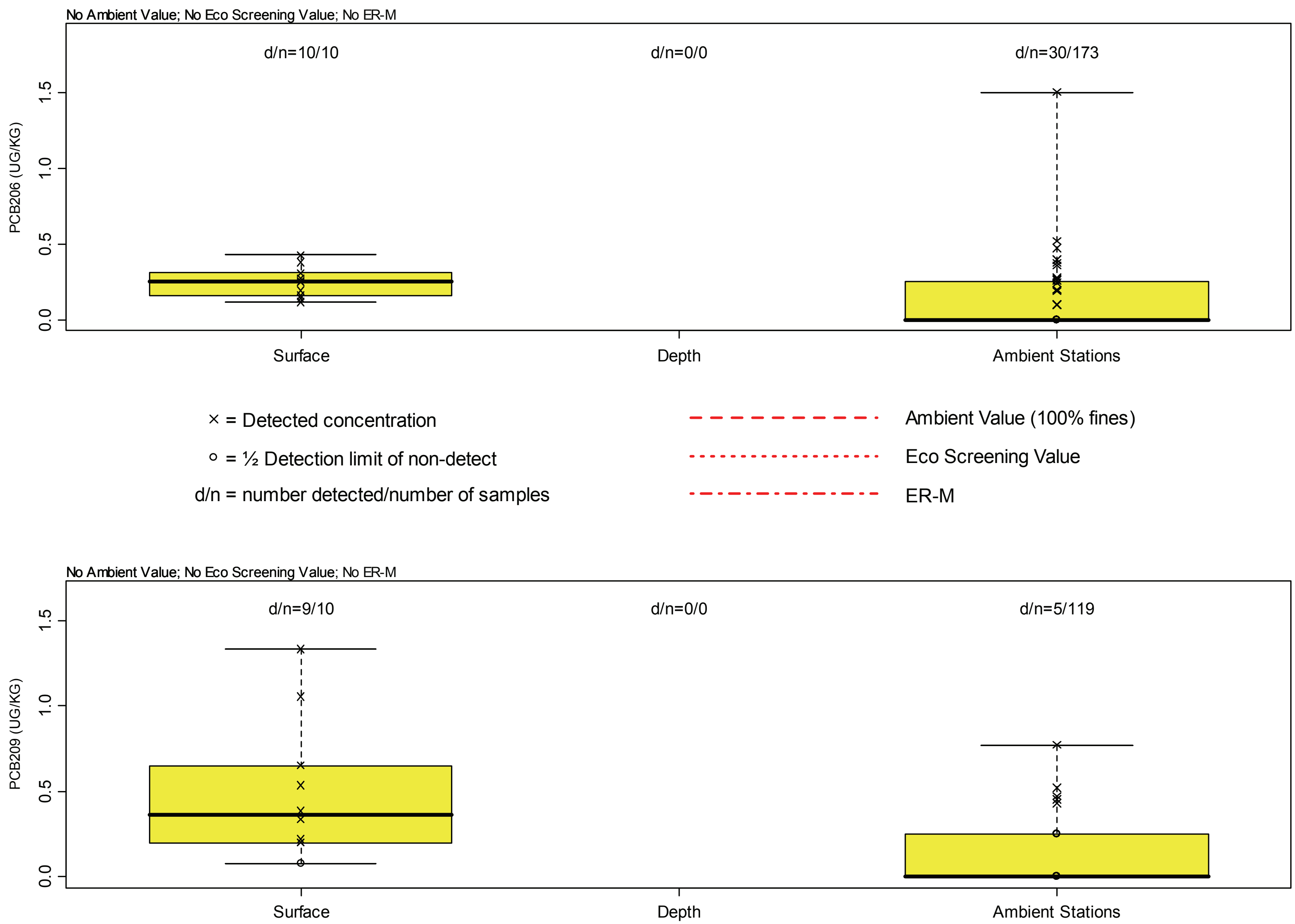


Figure A–289. Box Plots of PCB206 and PCB209 Concentrations in Breakwater Beach by Depth.

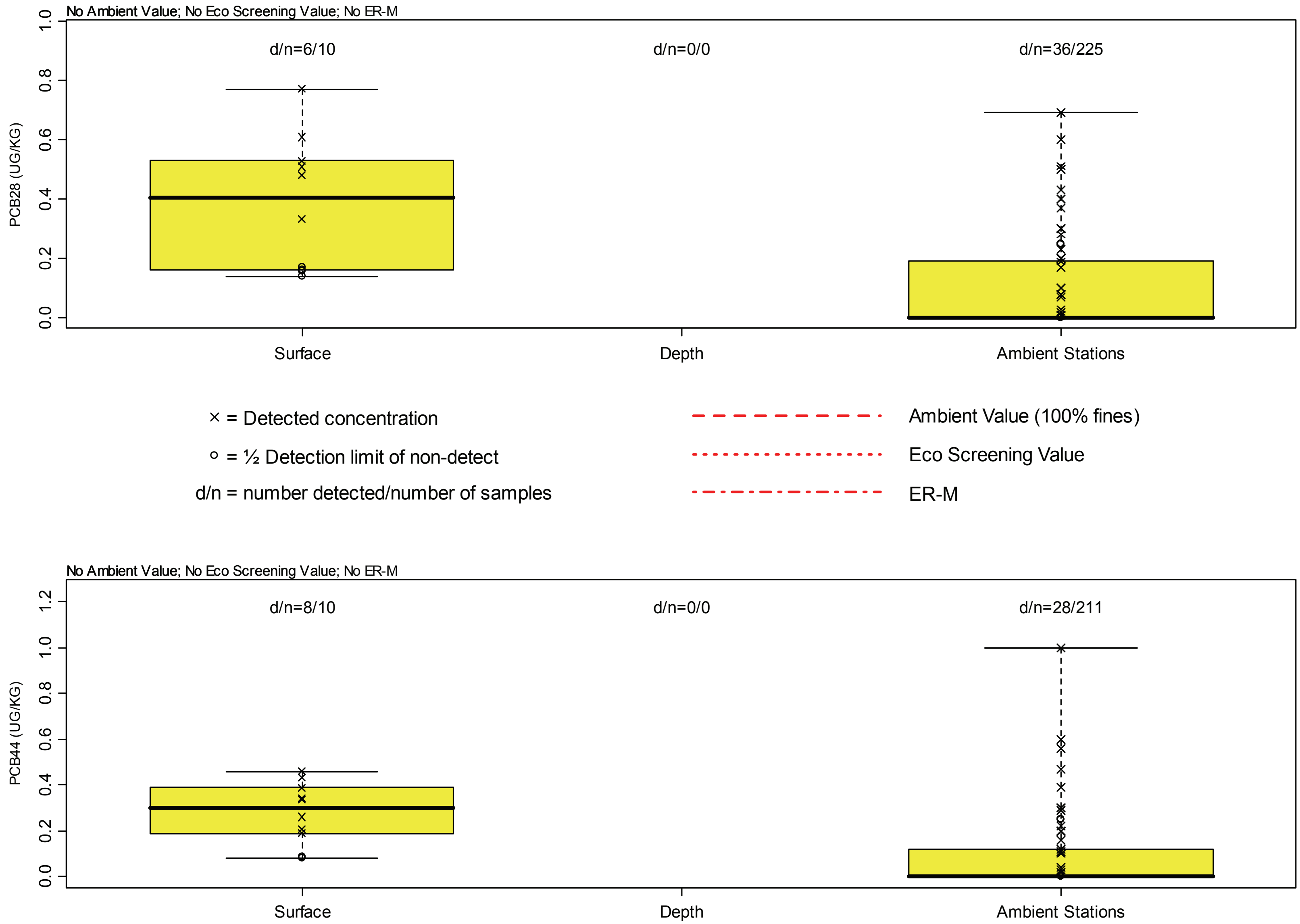


Figure A–290. Box Plots of PCB28 and PCB44 Concentrations in Breakwater Beach by Depth.

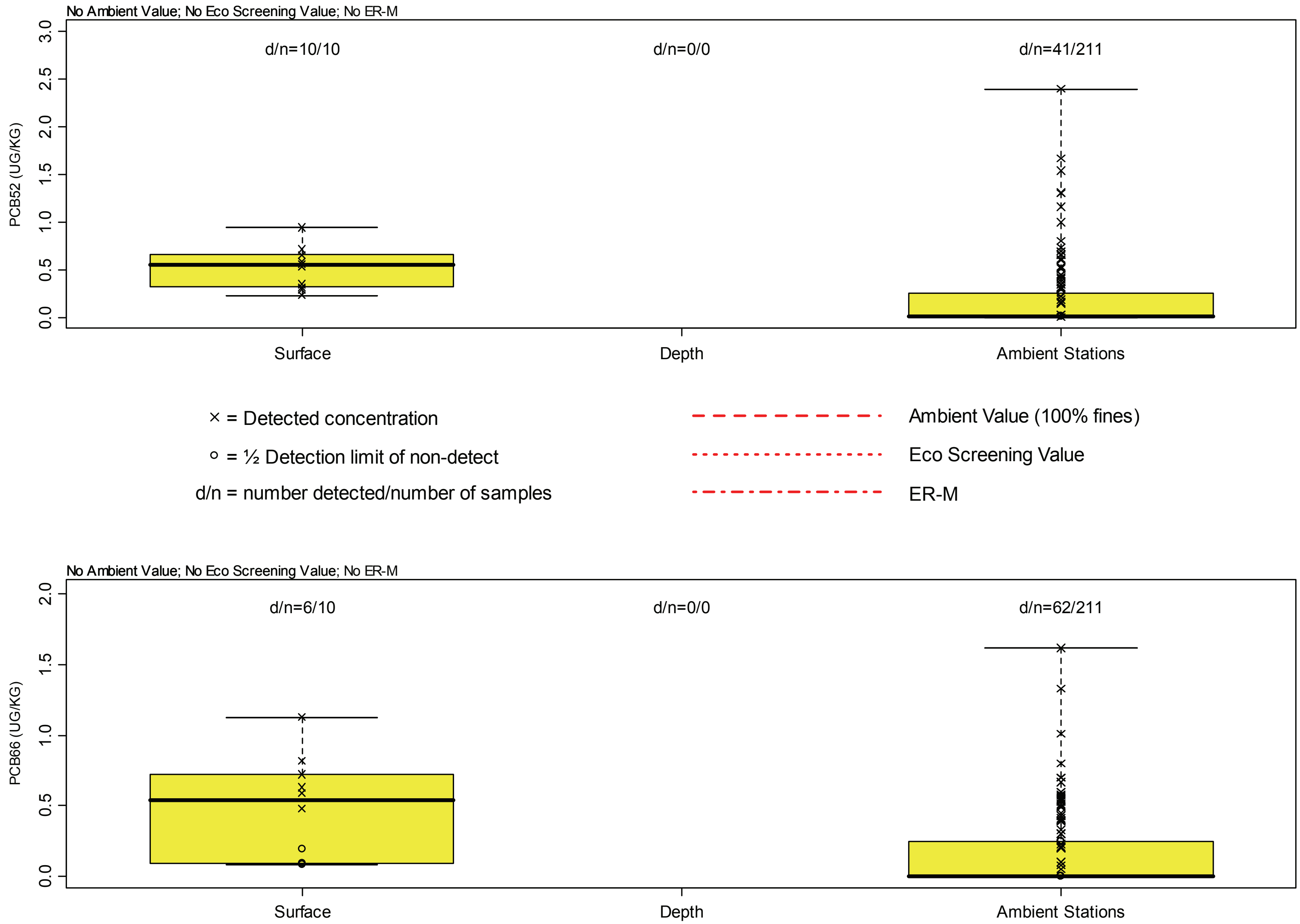


Figure A–291. Box Plots of PCB52 and PCB66 Concentrations in Breakwater Beach by Depth.

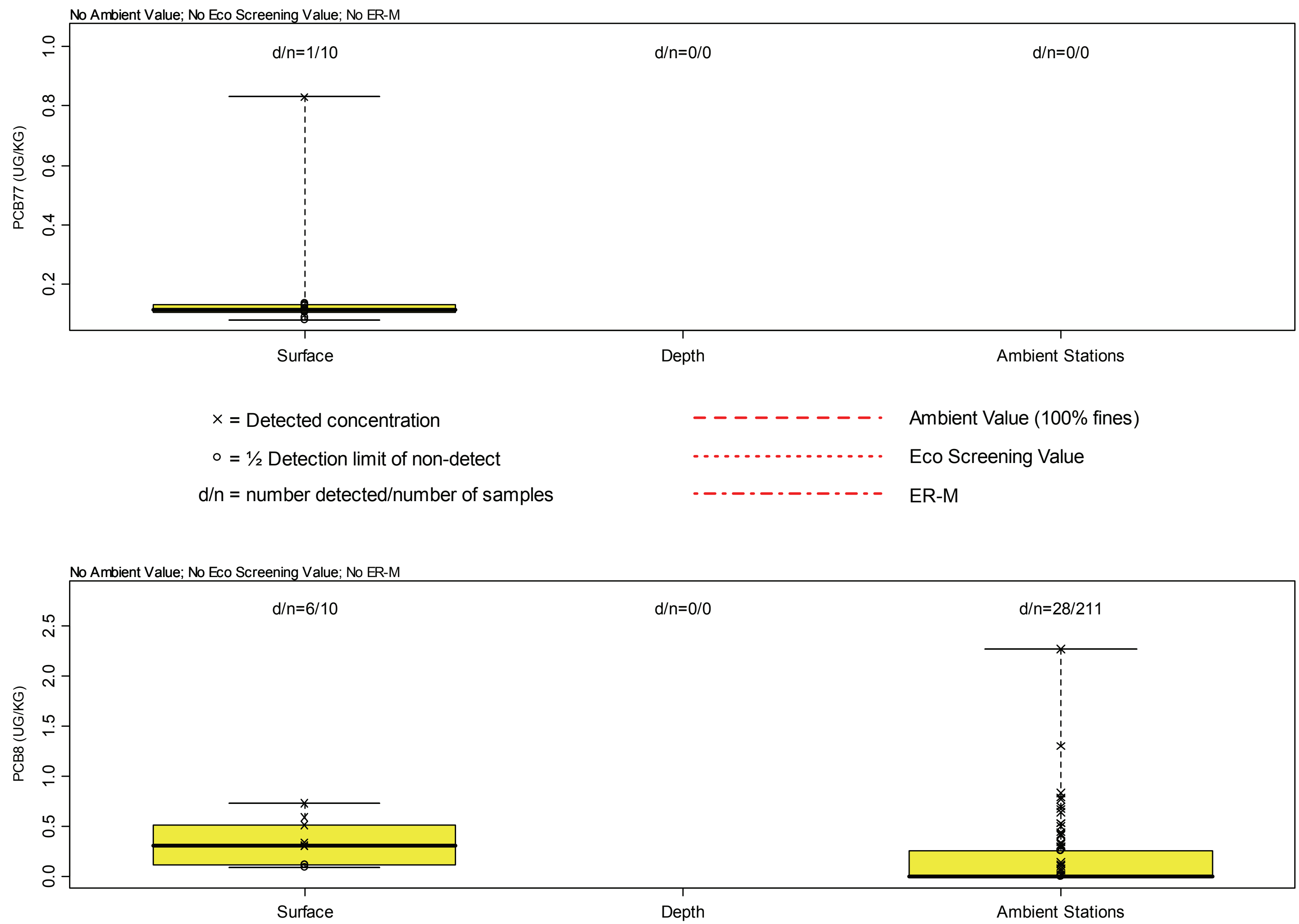


Figure A–292. Plots of PCB77 and PCB8 Concentrations in Breakwater Beach by Depth.

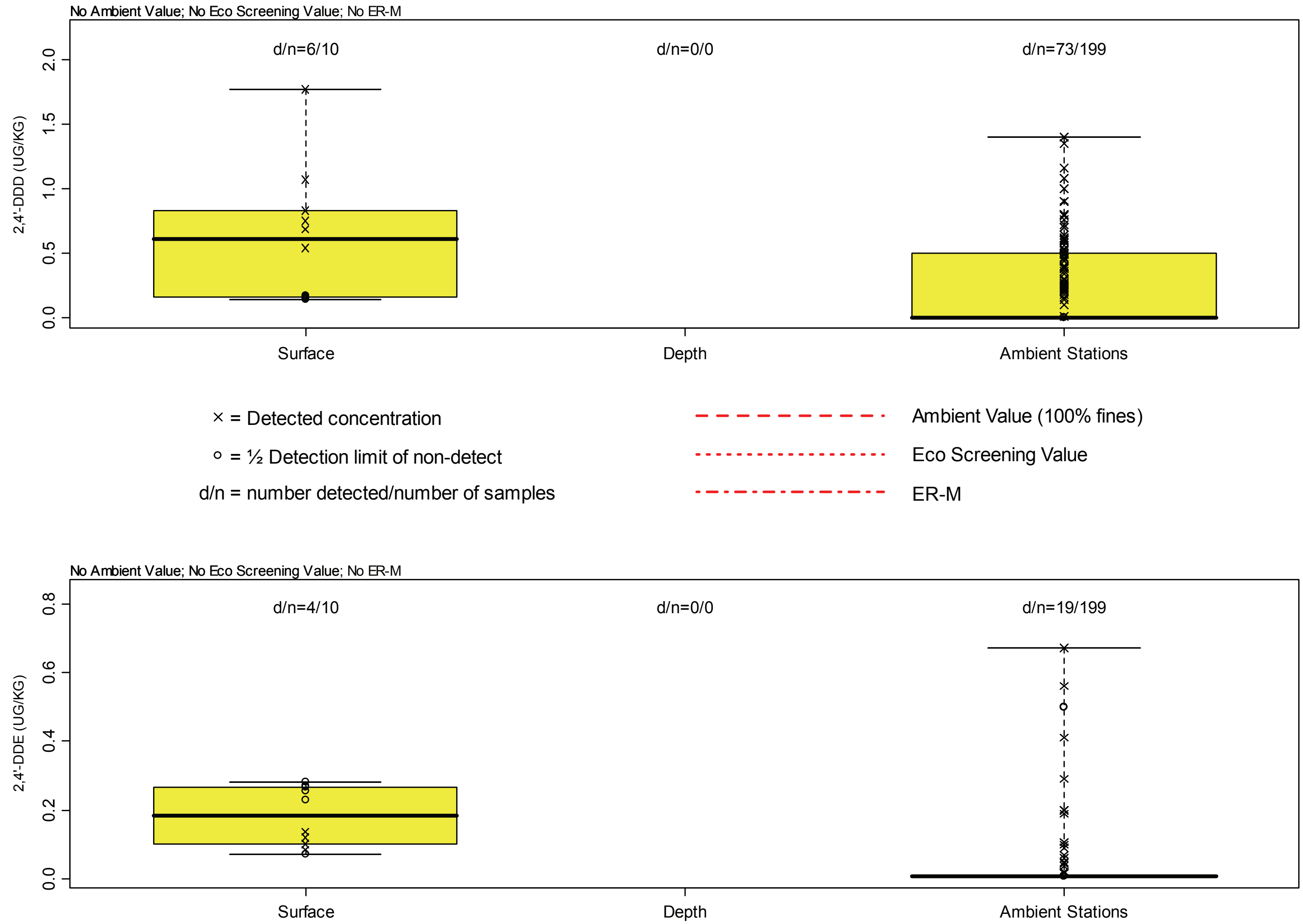


Figure A–293. Box Plots of 2,4'-DDD and 2,4'-DDE Concentrations in Breakwater Beach by Depth.

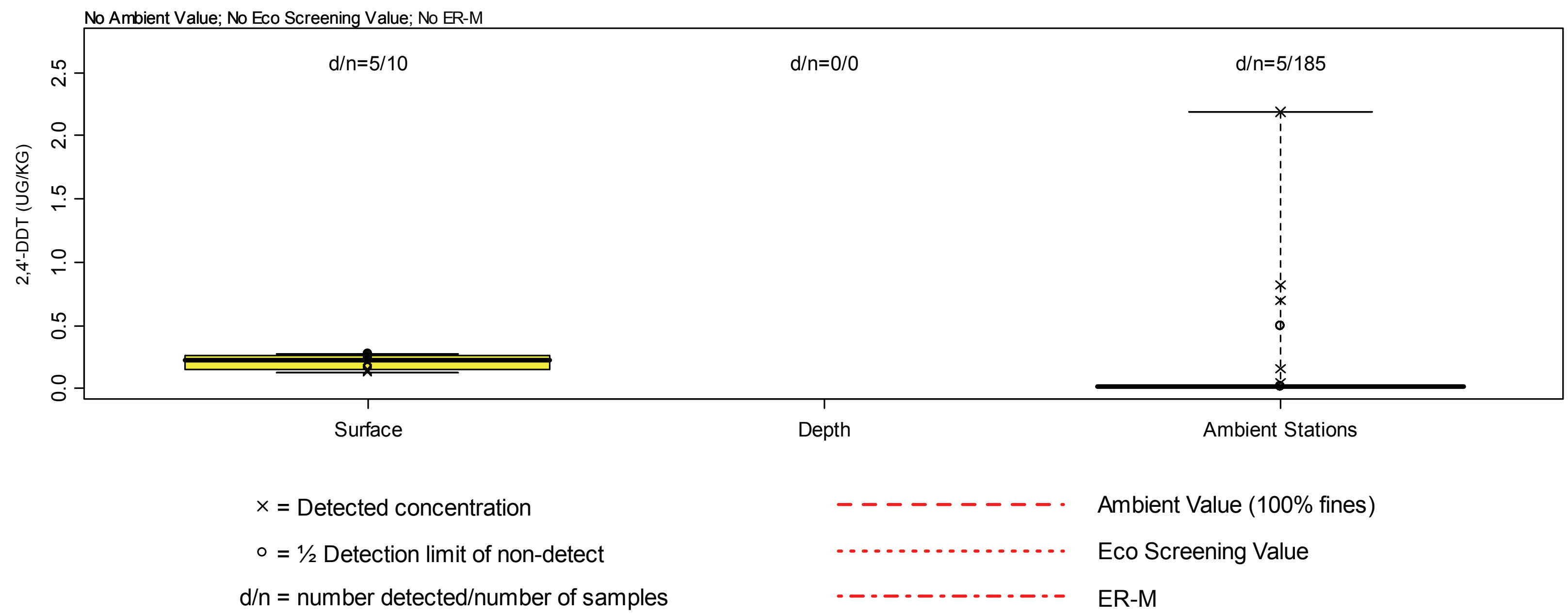
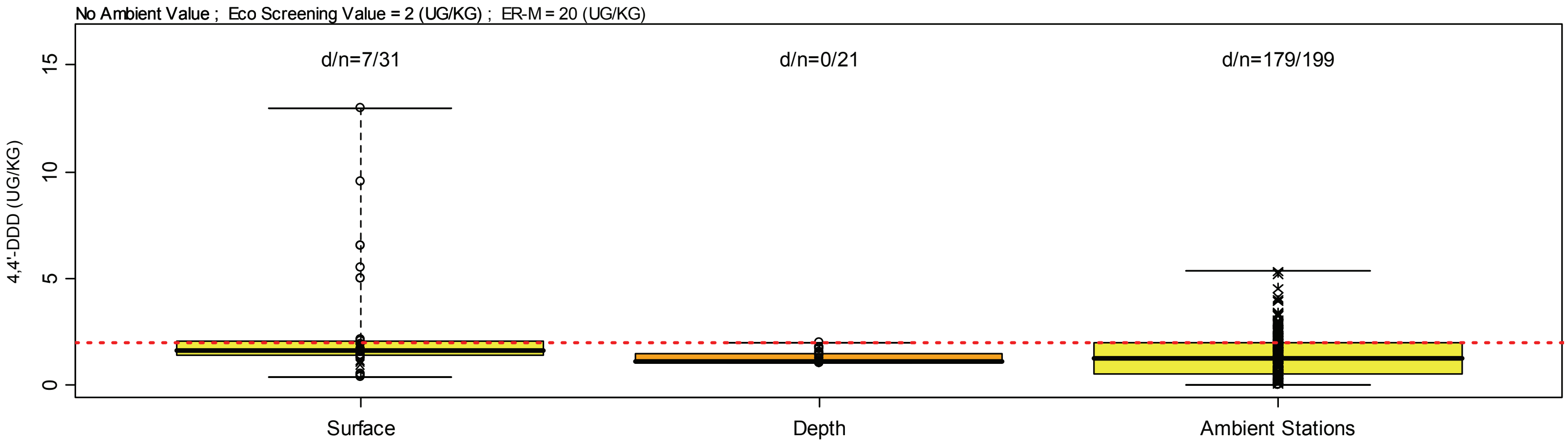


Figure A–294. Box Plots of 2,4’-DDT Concentrations in Breakwater Beach by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

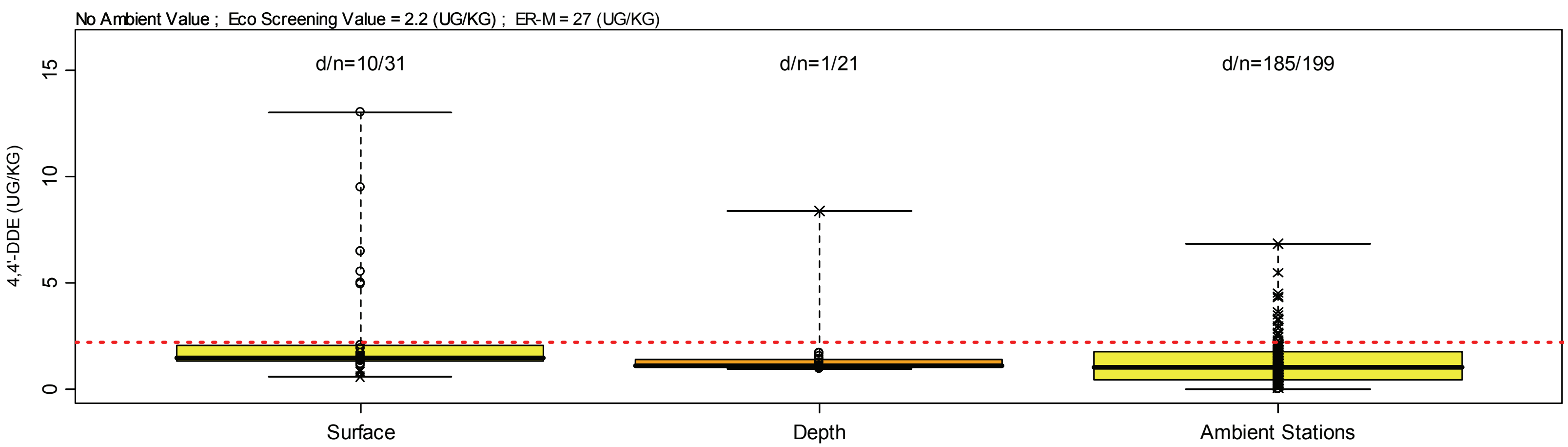


Figure A–295. Box Plots of 4,4'-DDD and 4,4'-DDE Concentrations in Breakwater Beach by Depth.

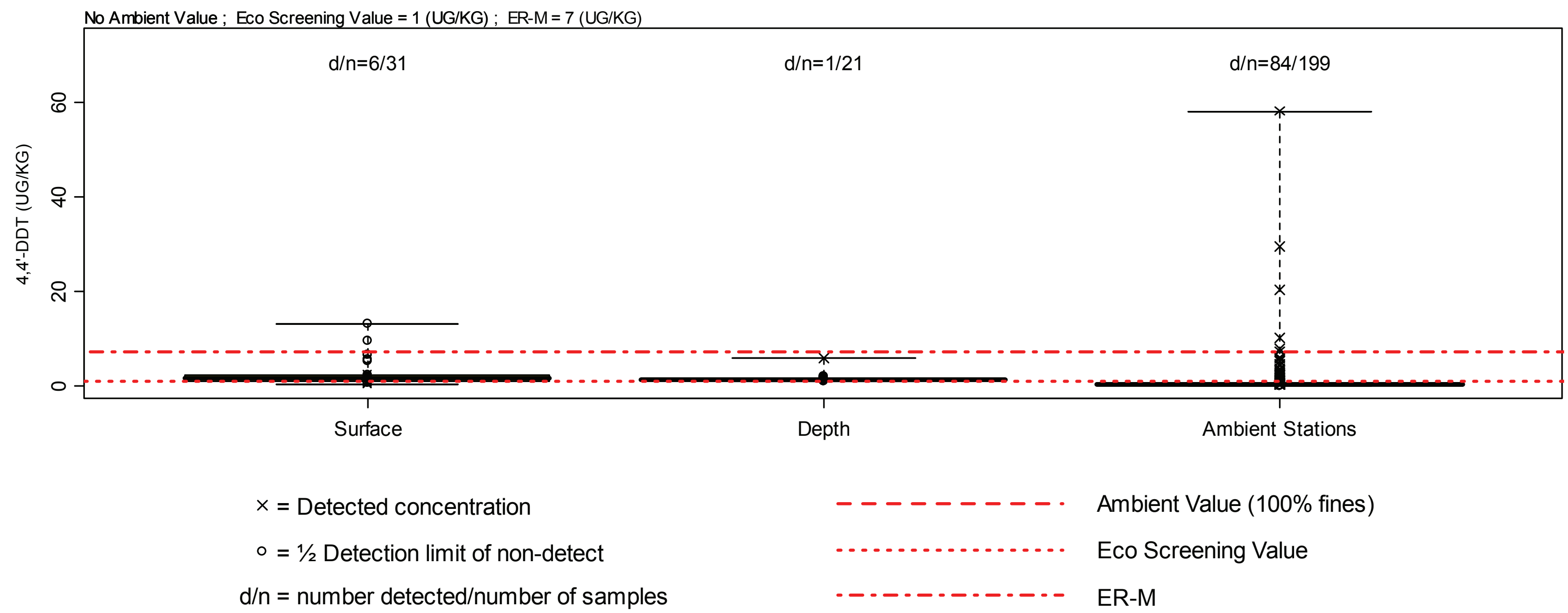


Figure A–296. Box Plots of 4,4'-DDT Concentrations in Breakwater Beach by Depth.

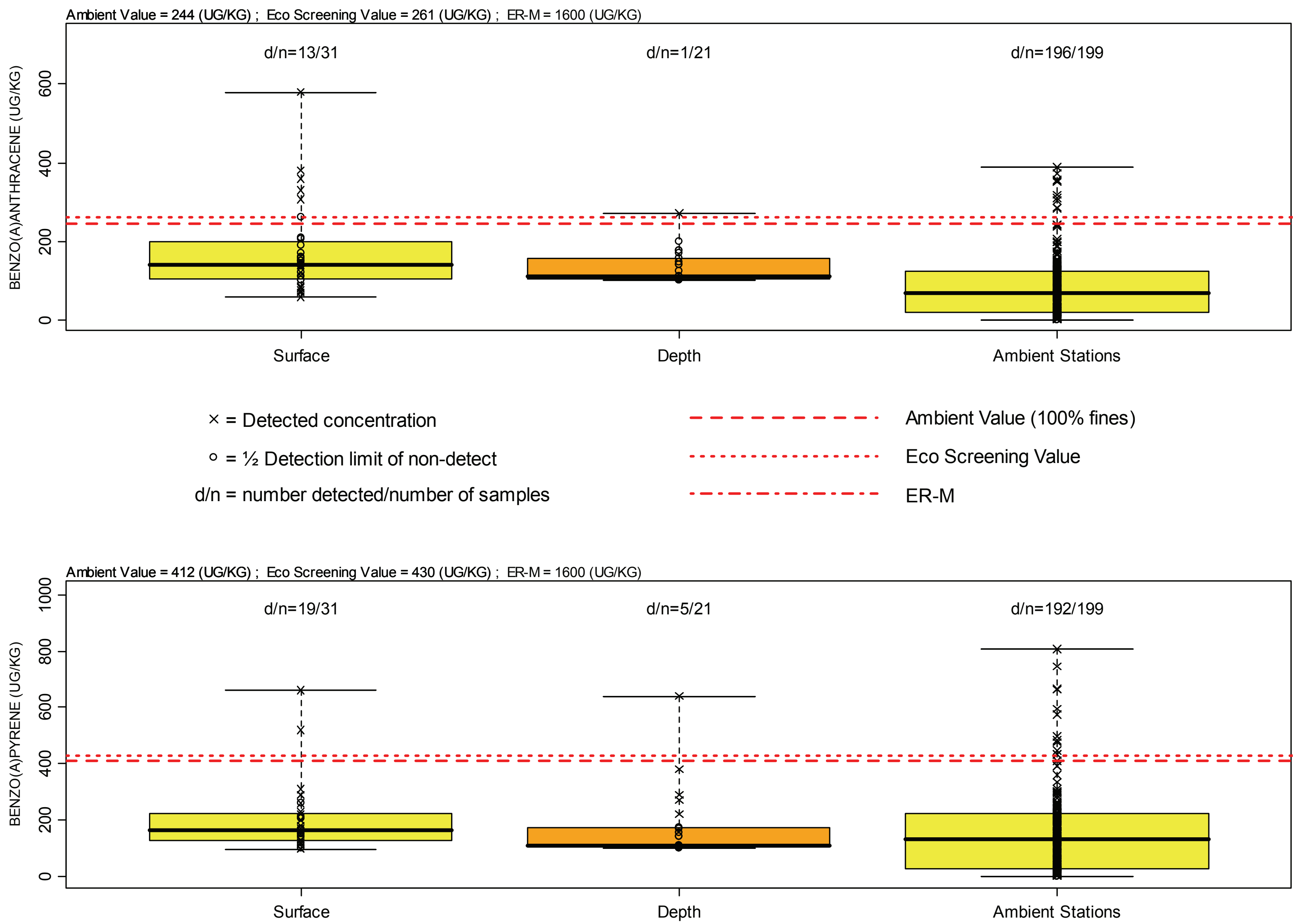


Figure A–297. Box Plots of Benzo(a)anthracene and Benzo(a)pyrene Concentrations in Breakwater Beach by Depth.

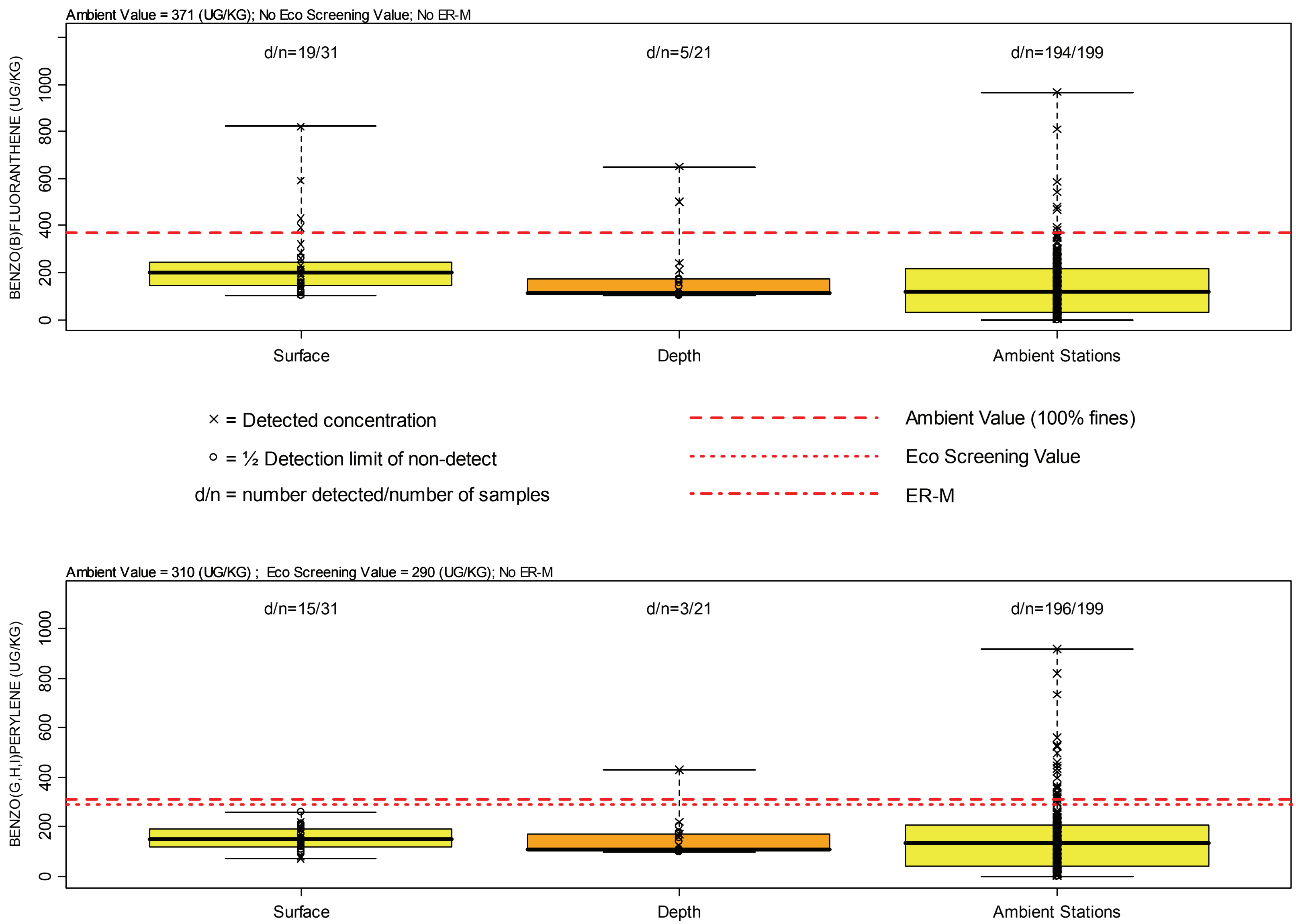


Figure A–298. Box Plots of Benzo(b)fluoranthene and Benzo(g,h,i)perylene Concentrations in Breakwater Beach by Depth.

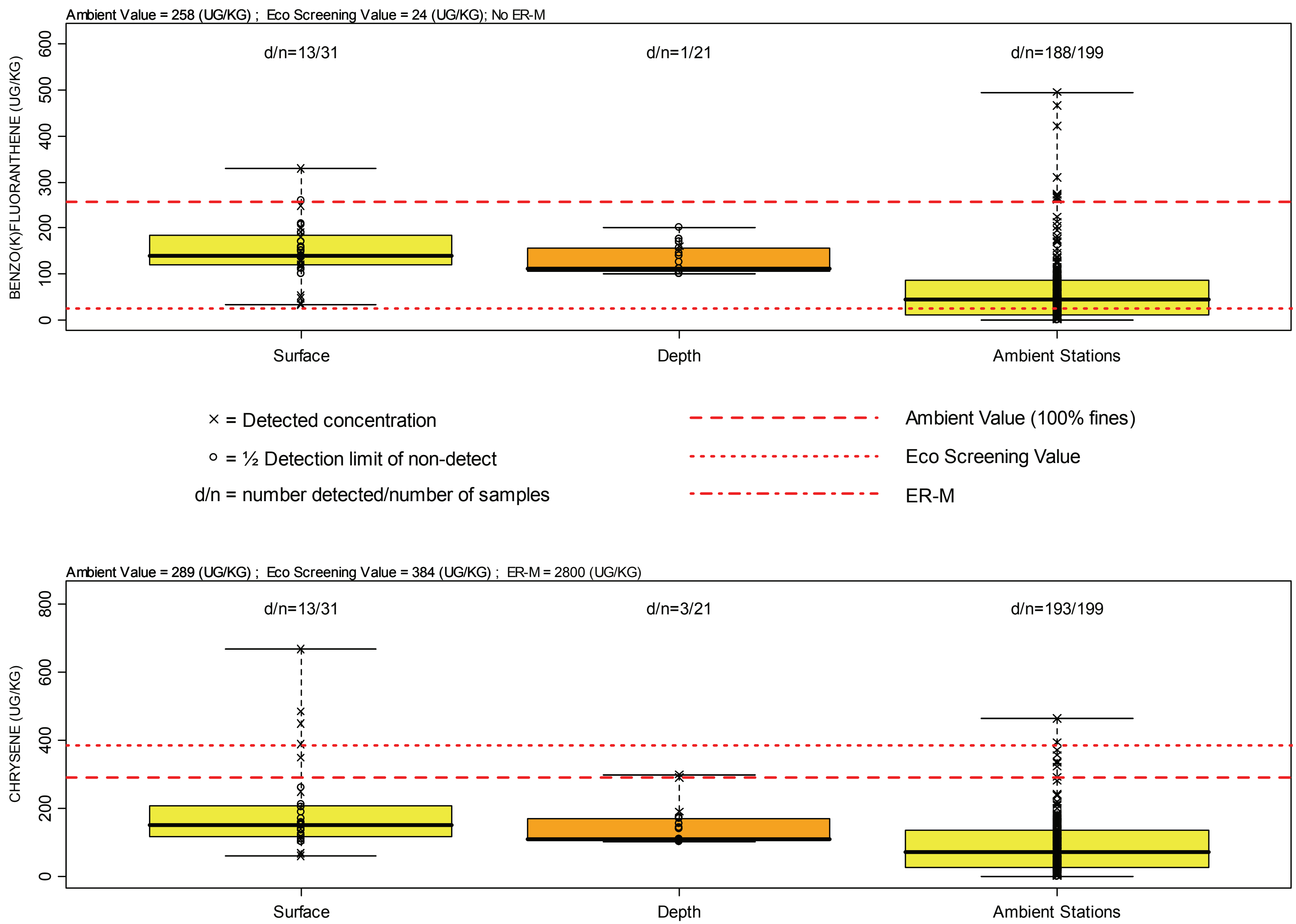


Figure A–299. Box Plots of Benzo(k)fluoranthene and Chrysene Concentrations in Breakwater Beach by Depth.

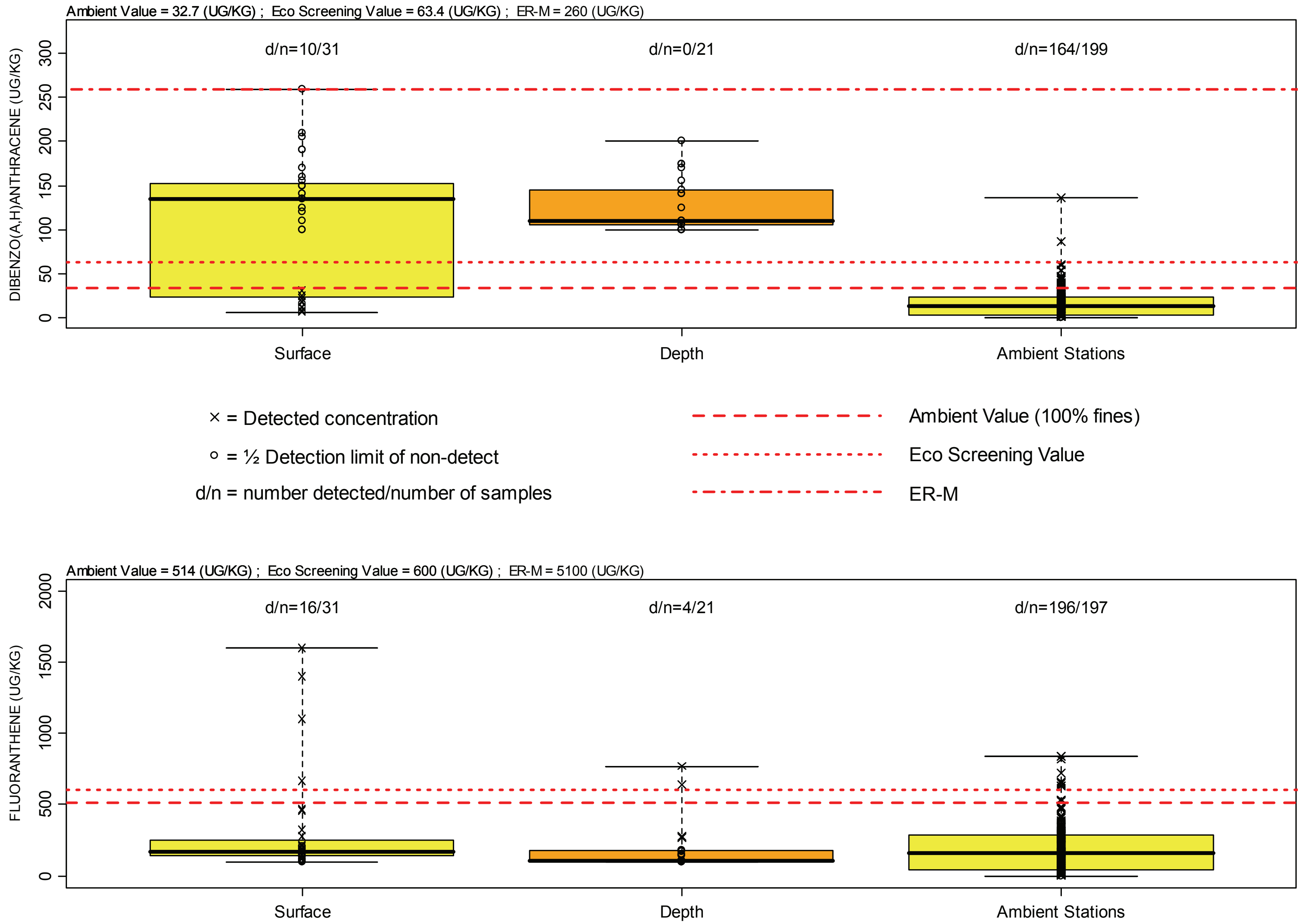


Figure A–300. Box Plots of Dibenzo(a,h)anthracene and Fluoranthene Concentrations in Breakwater Beach by Depth.

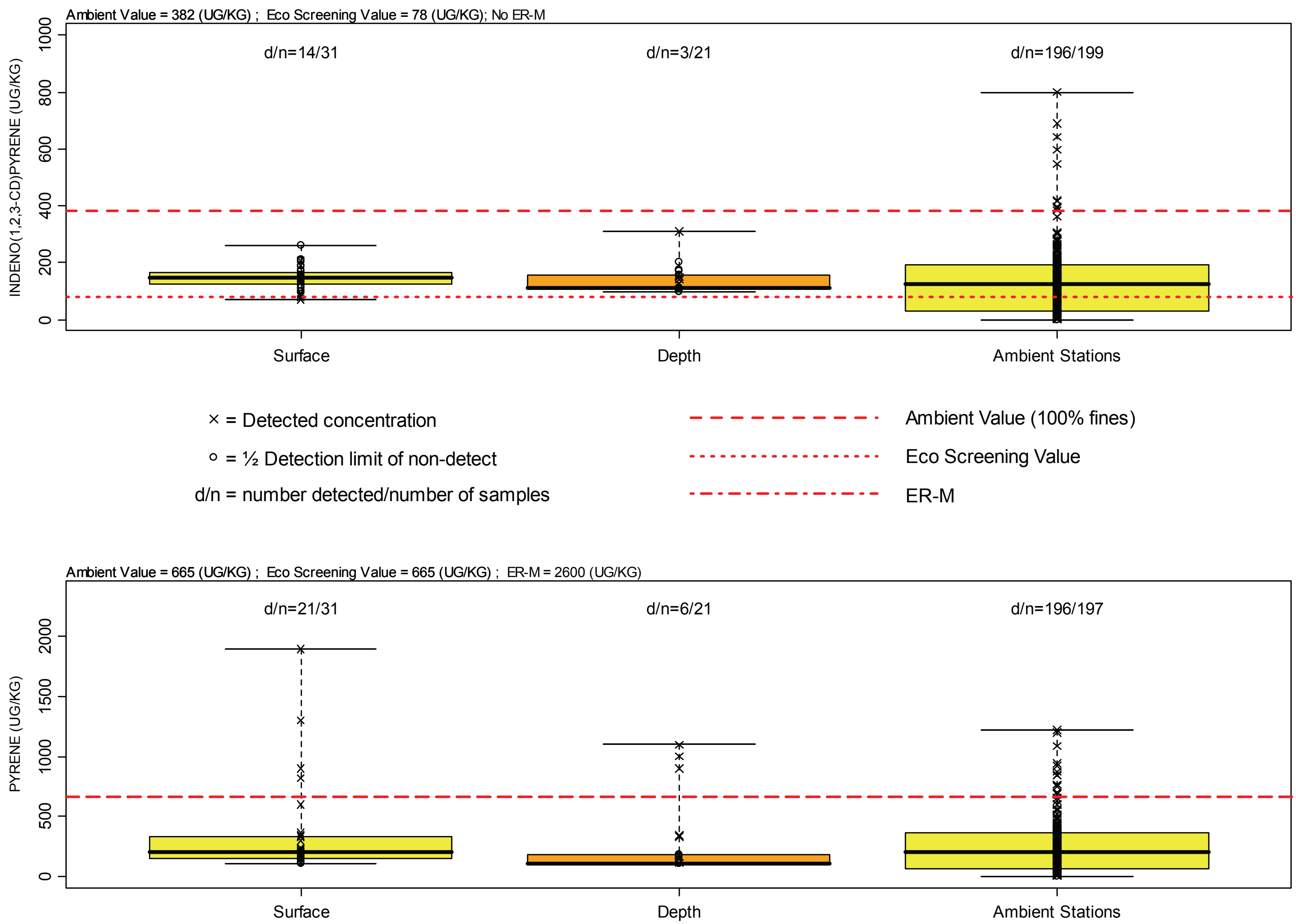


Figure A–301. Box Plots of Indeno(1,2,3-cd)pyrene and Pyrene Concentrations in Breakwater Beach by Depth.

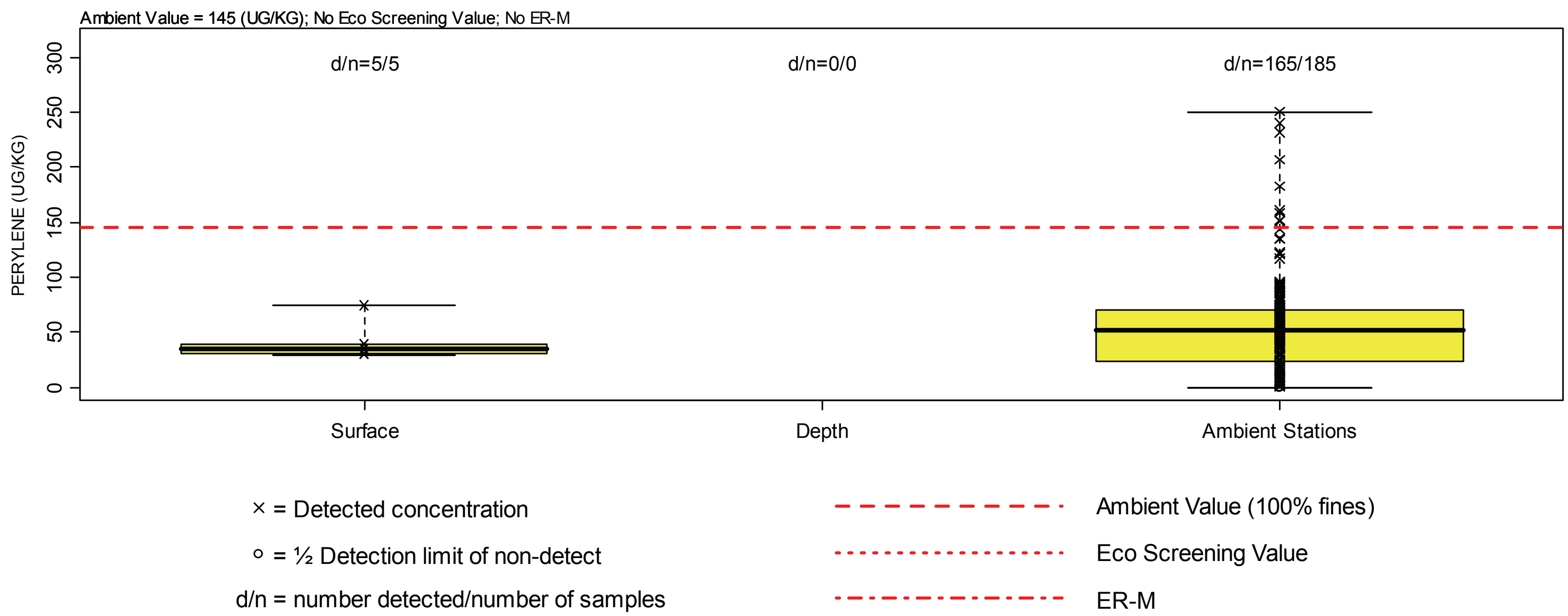


Figure A–302. Box Plots of Perylene Concentrations in Breakwater Beach by Depth.

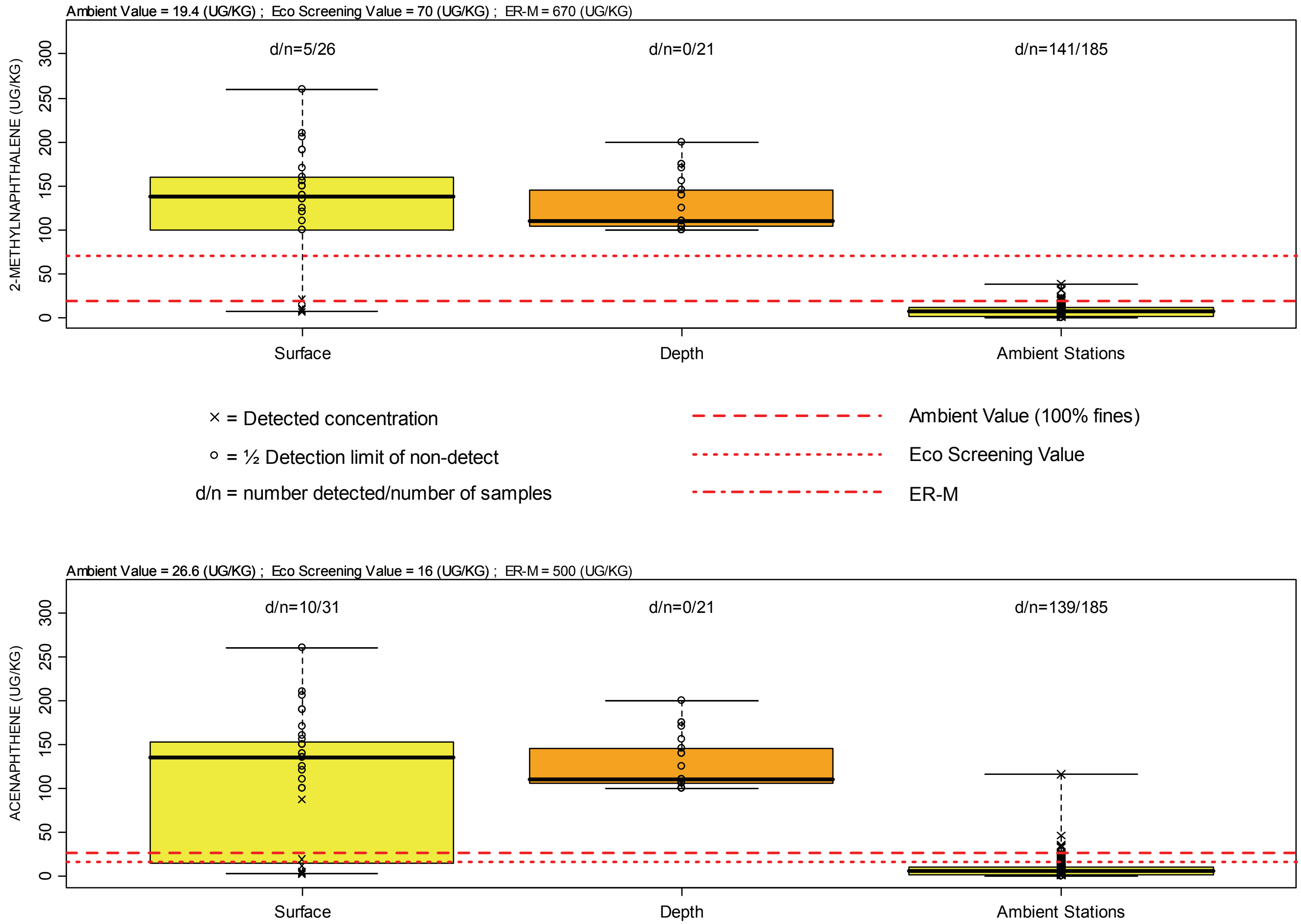
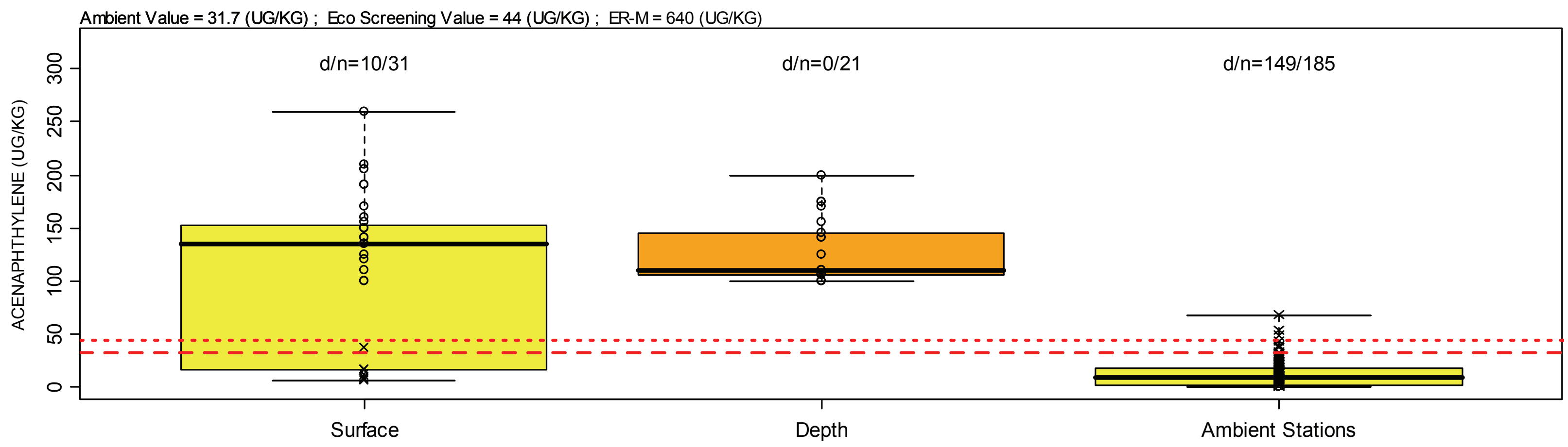


Figure A–303. Box Plots of 2-Methylnaphthalene and Acenaphthene Concentrations in Breakwater Beach by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

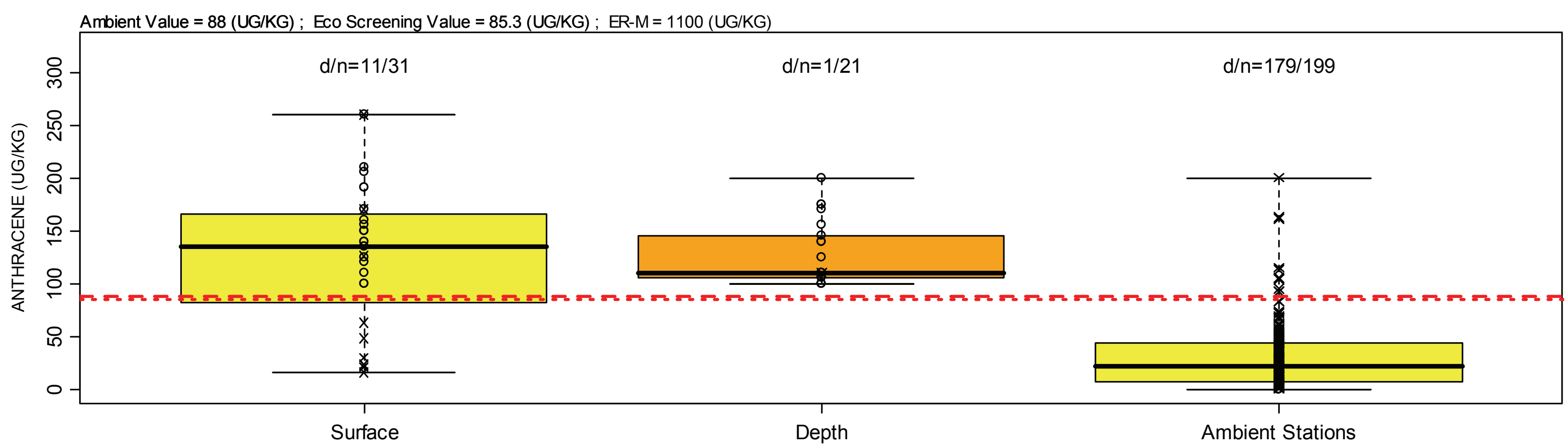


Figure A–304. Box Plots of Acenaphthylene and Anthracene Concentrations in Breakwater Beach by Depth.

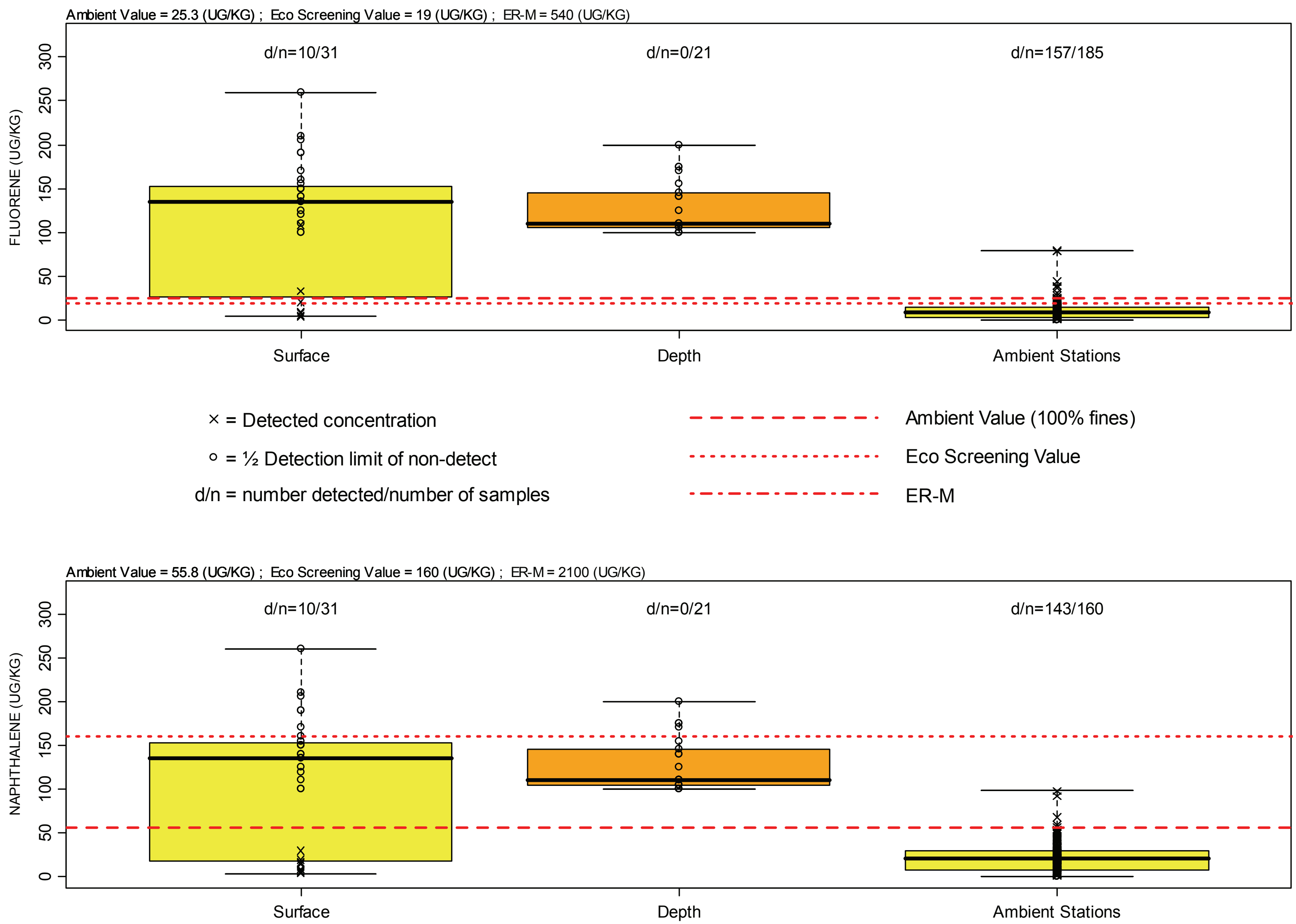


Figure A–305. Box Plots of Fluorene and Naphthalene Concentrations in Breakwater Beach by Depth.

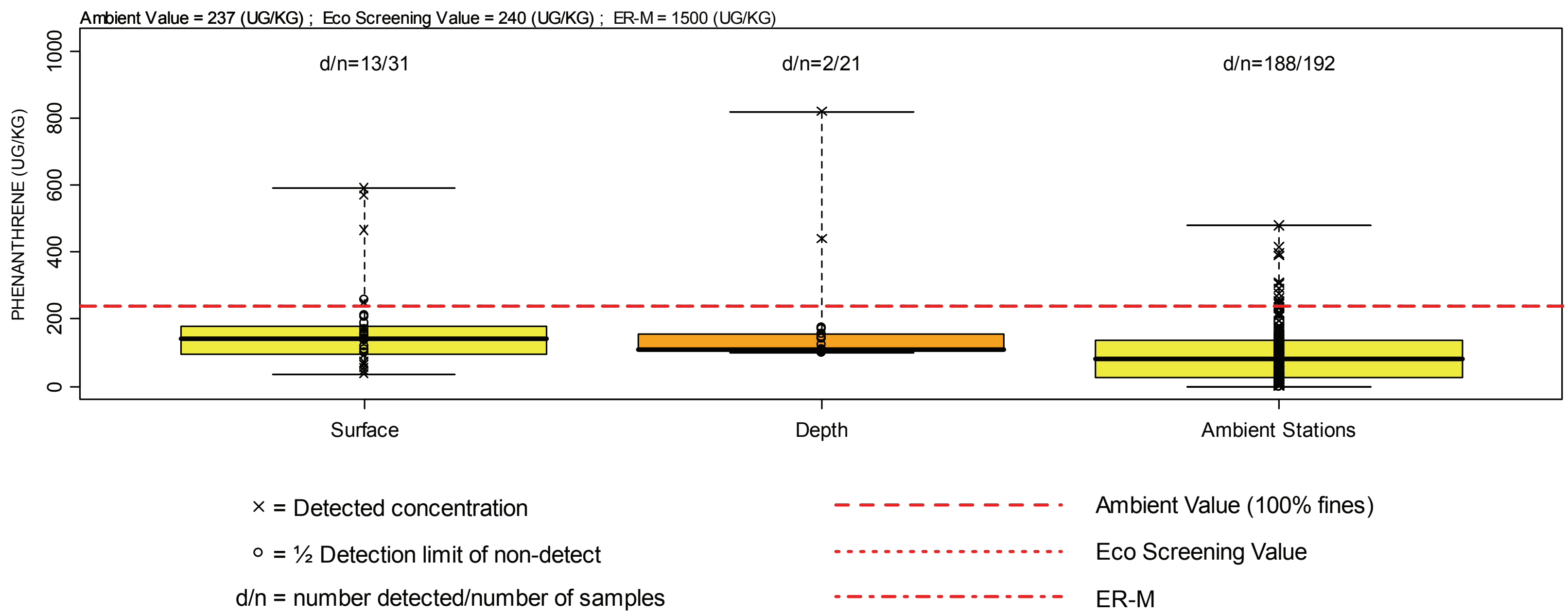


Figure A–306. Box Plots of Phenanthrene Concentrations in Breakwater Beach by Depth.

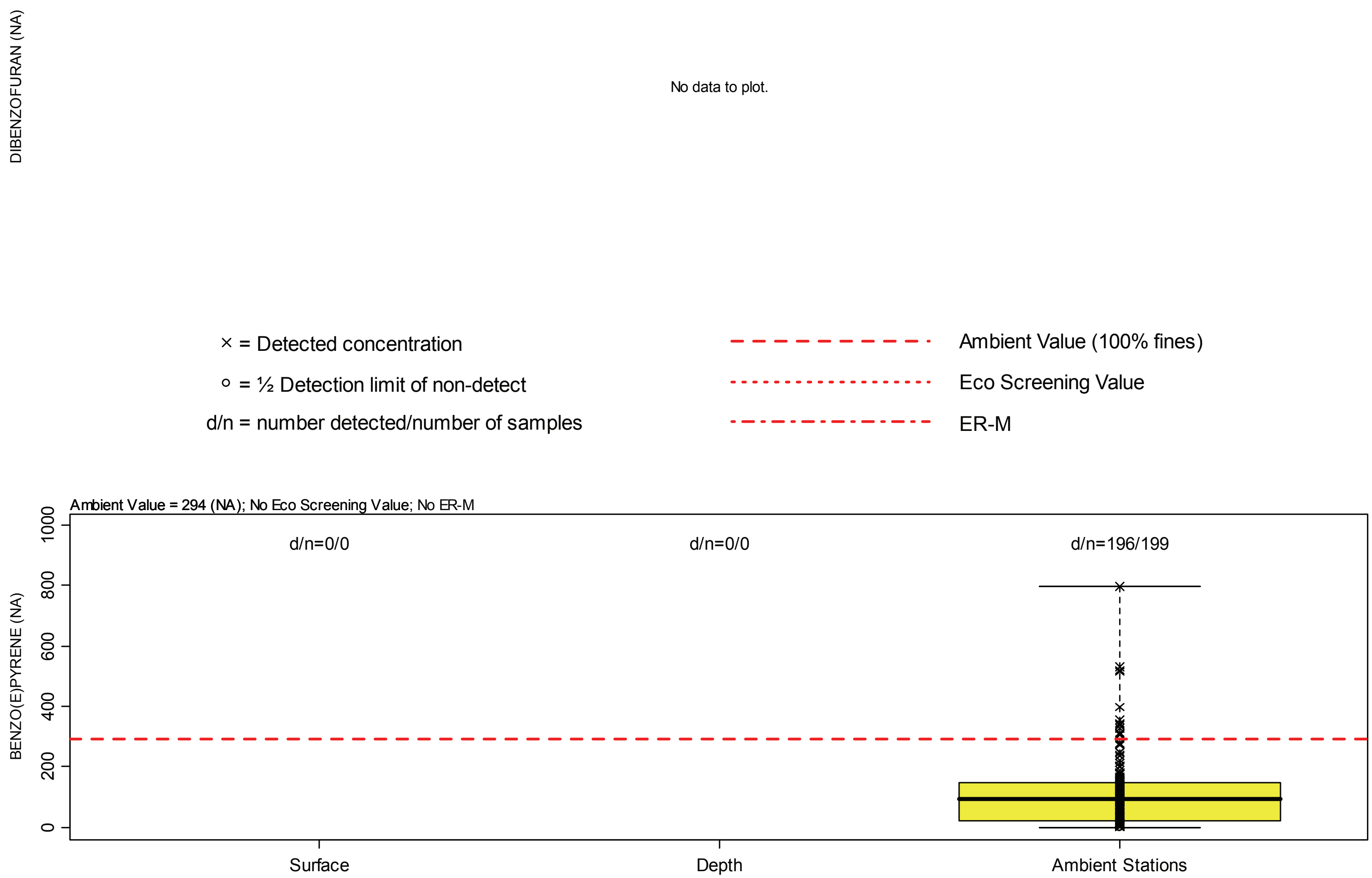


Figure A–307. Box Plots of Dibenzofuran and Benzo(e)pyrene Concentrations in Breakwater Beach by Depth.

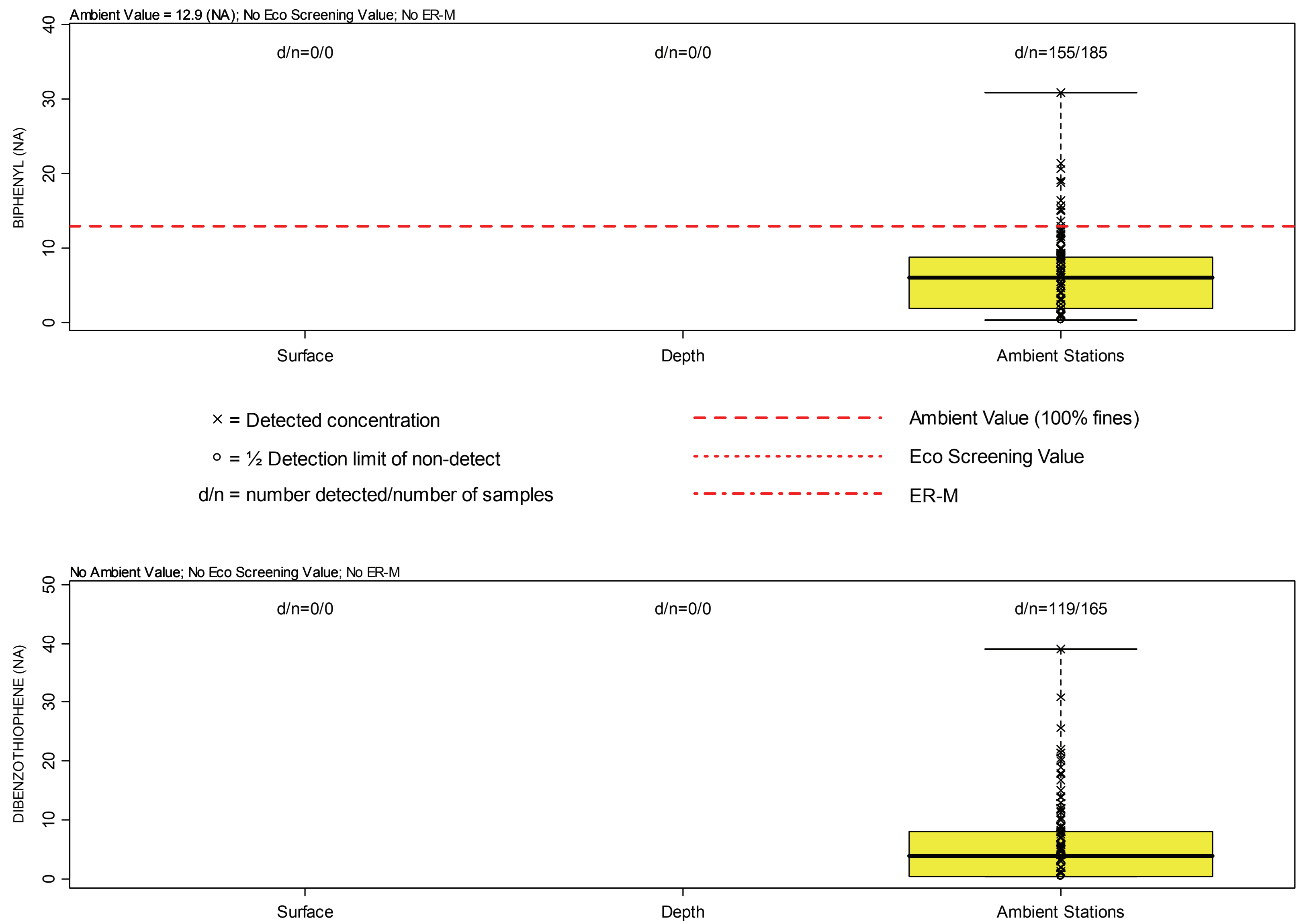


Figure A–308. Box Plots of Biphenyl and Dibenzothiophene Concentrations in Breakwater Beach by Depth.

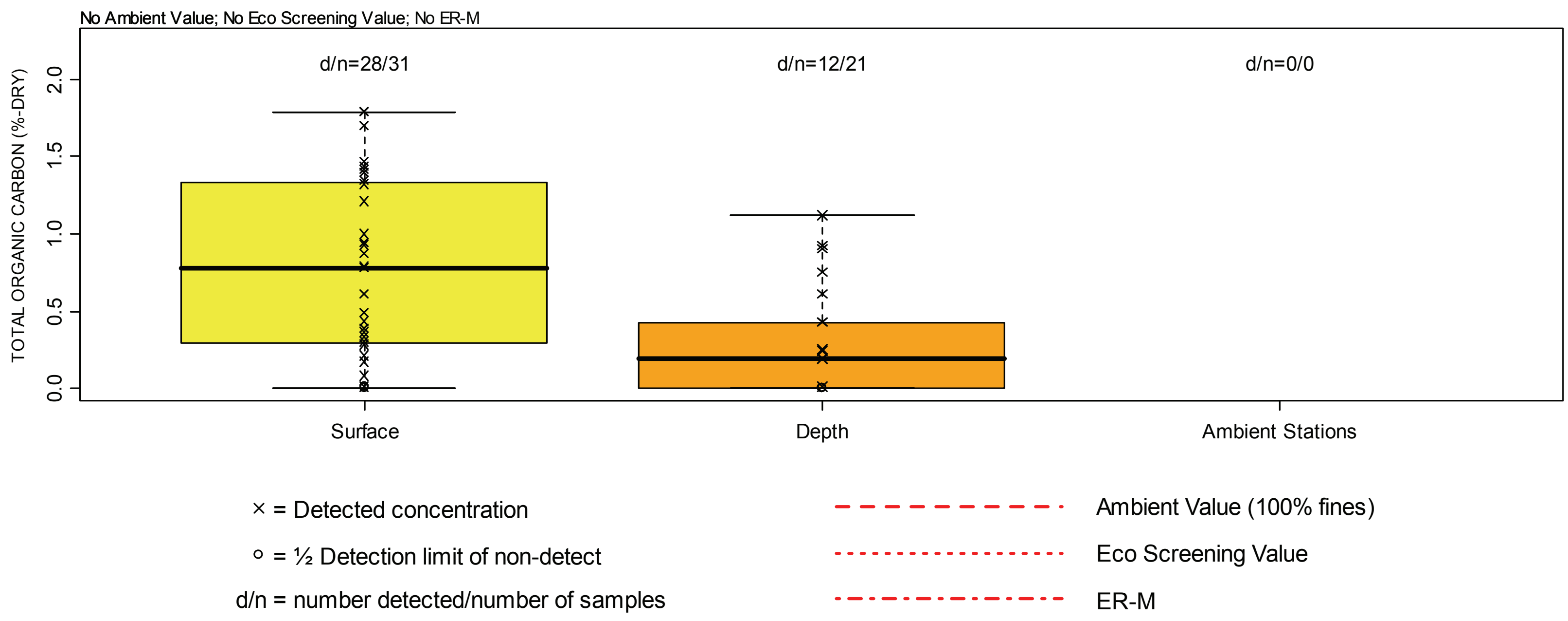
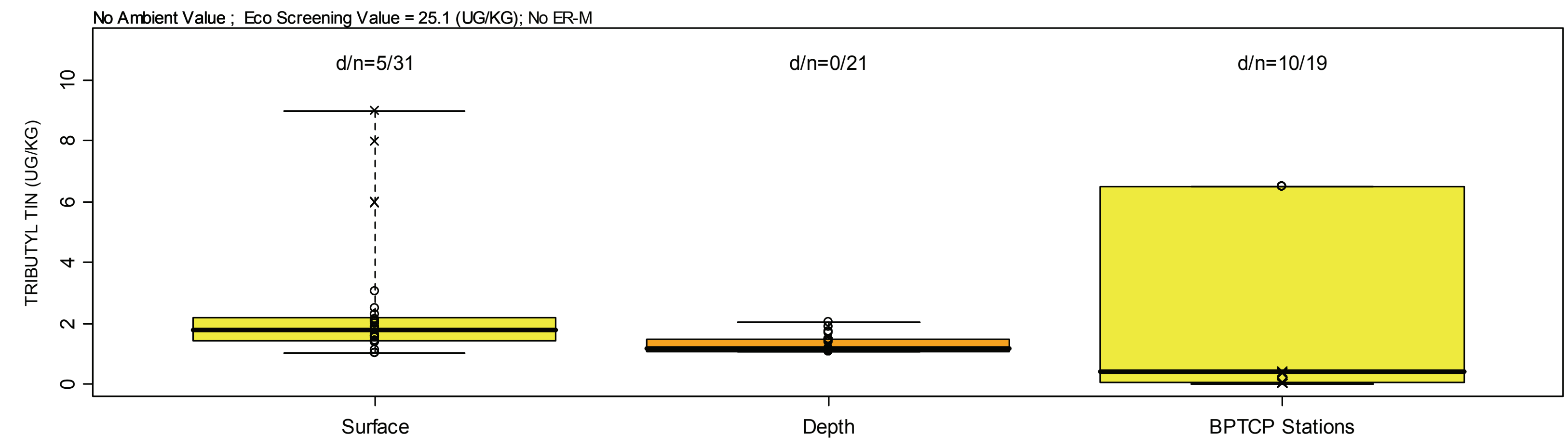


Figure A–309. Box Plots of Total Organic Carbon in Breakwater Beach by Depth.



× = Detected concentration

○ = ½ Detection limit of non-detect

d/n = number detected/number of samples

Ambient Value (100% fines)

Eco Screening Value

ER-M

Figure A–310. Box Plots of Tributyl Tin Concentrations in Breakwater Beach by Depth.

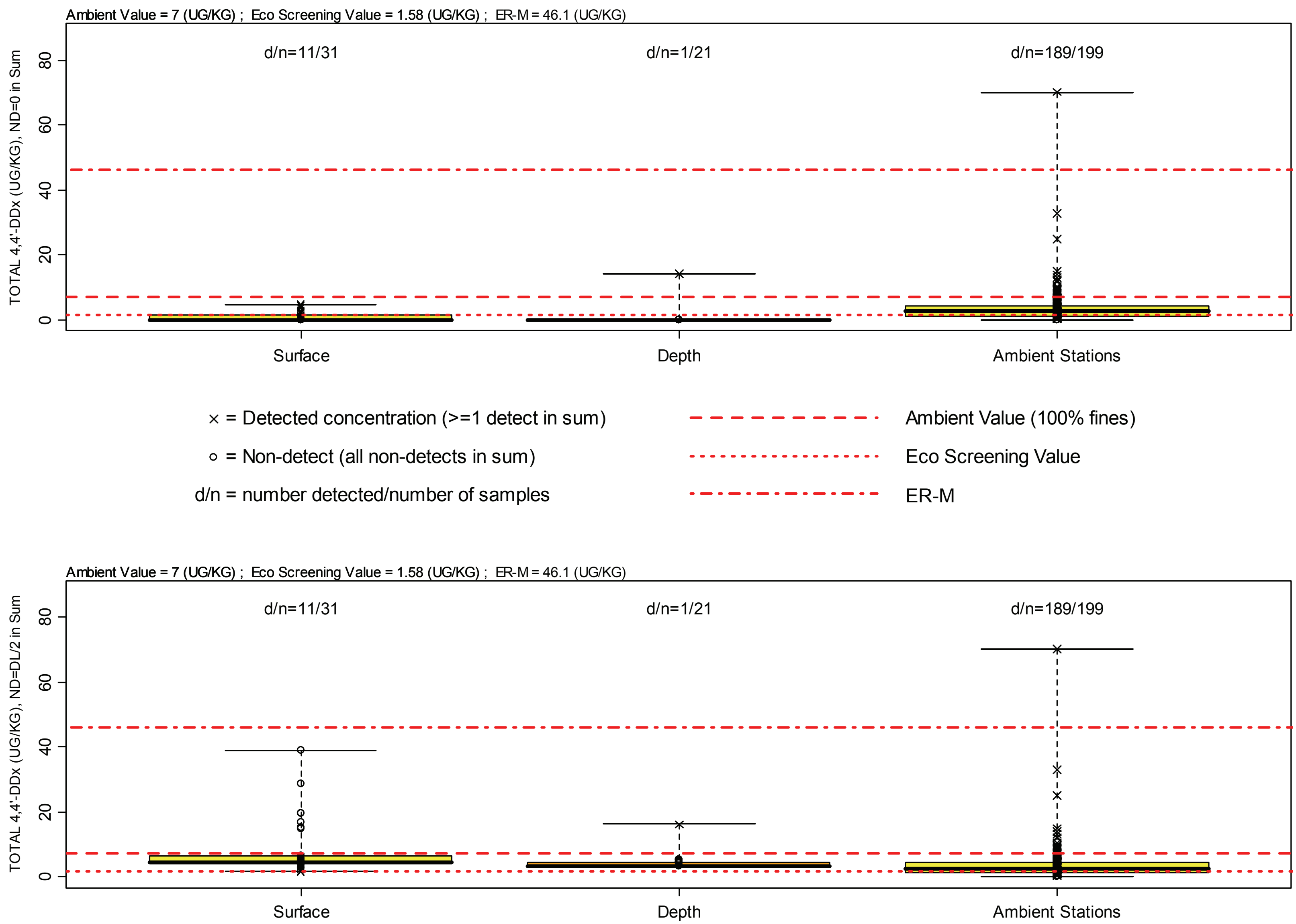


Figure A–311. Box Plots of Total 4,4'-DDx Concentrations in Breakwater Beach by Depth.

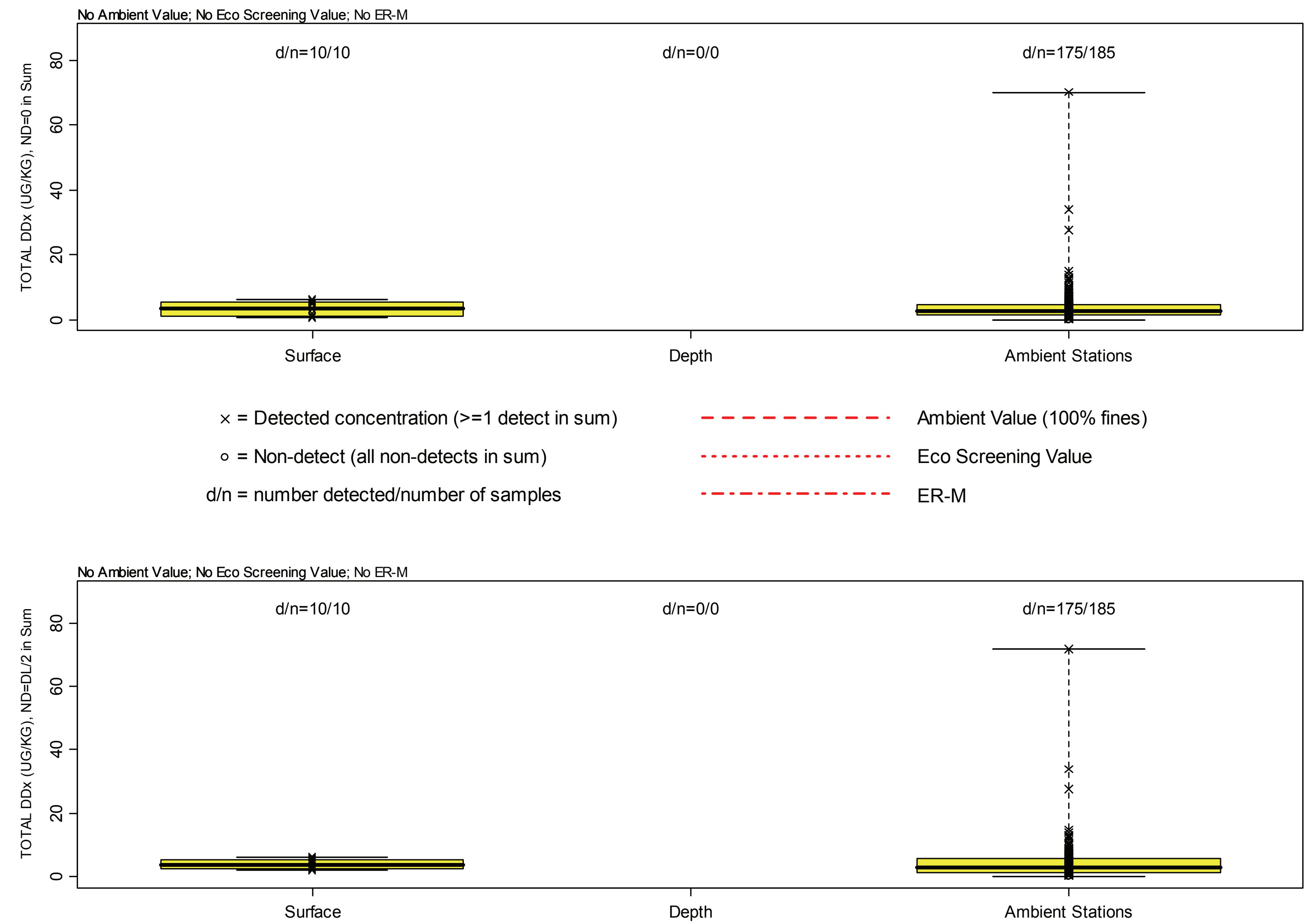


Figure A–312. Box Plots of Total DDx Concentrations in Breakwater Beach by Depth.

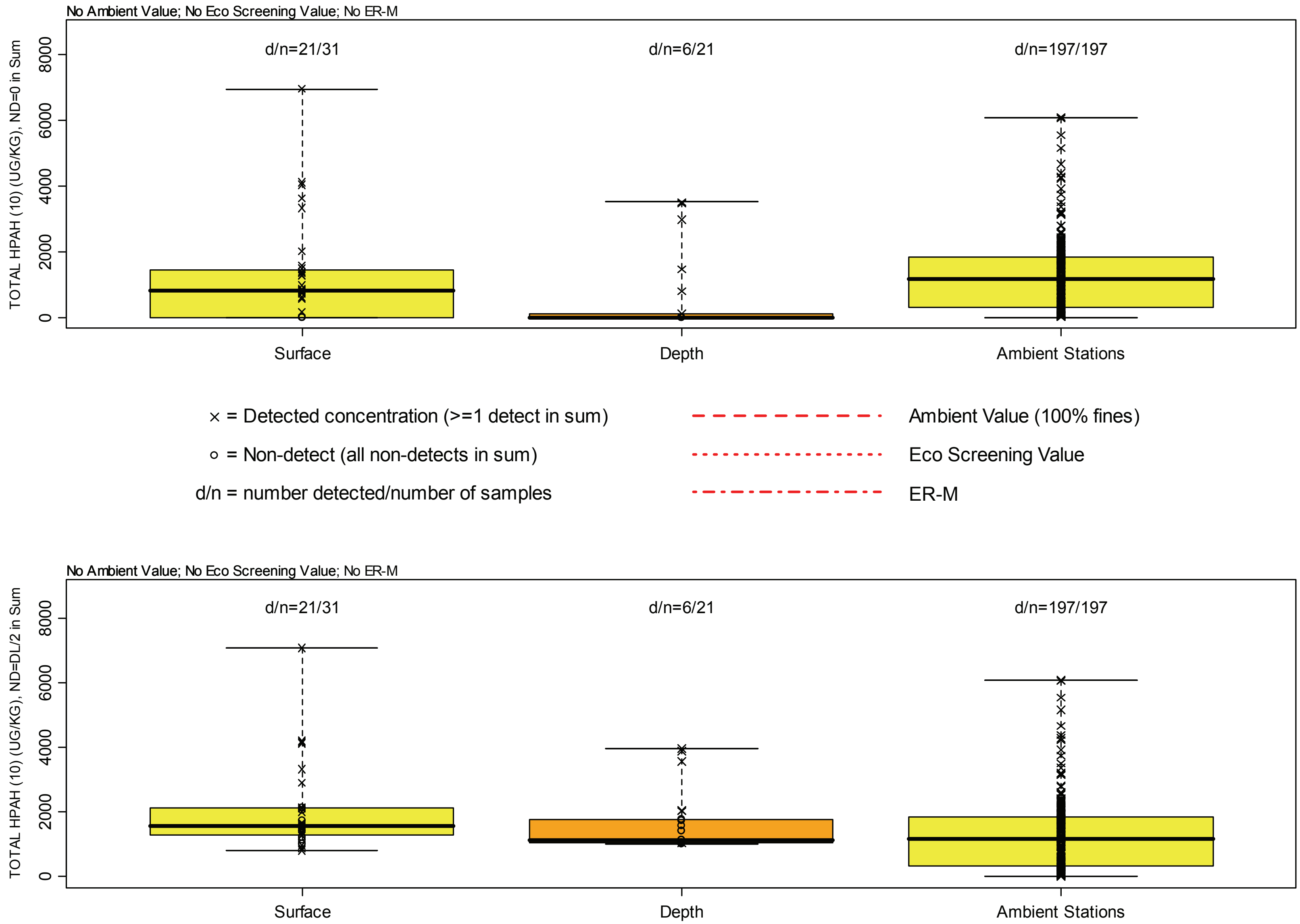


Figure A–313. Box Plots of Total HPAH(10) Concentrations in Breakwater Beach by Depth.

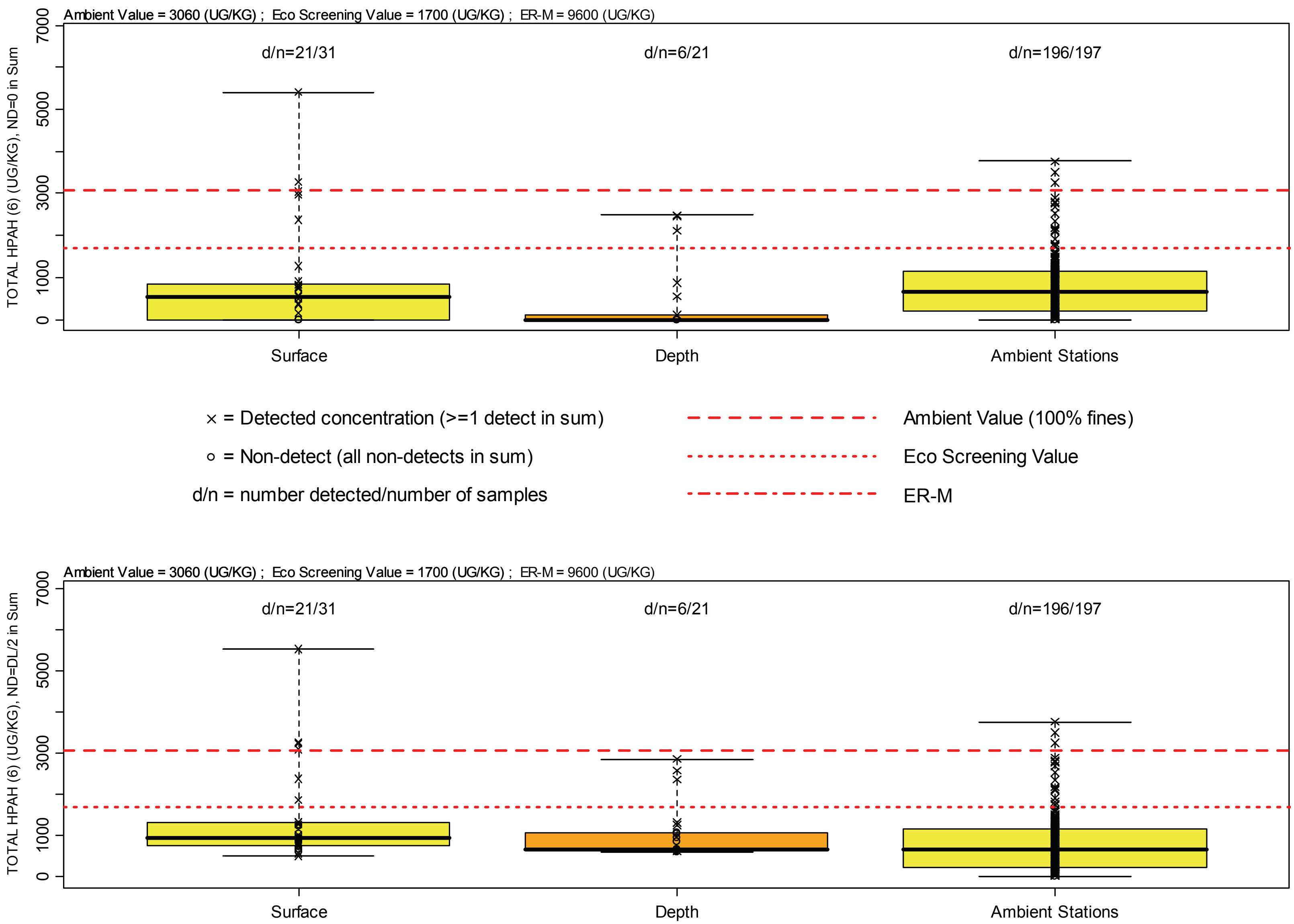


Figure A–314. Box Plots of Total HPAH(6) Concentrations in Breakwater Beach by Depth.

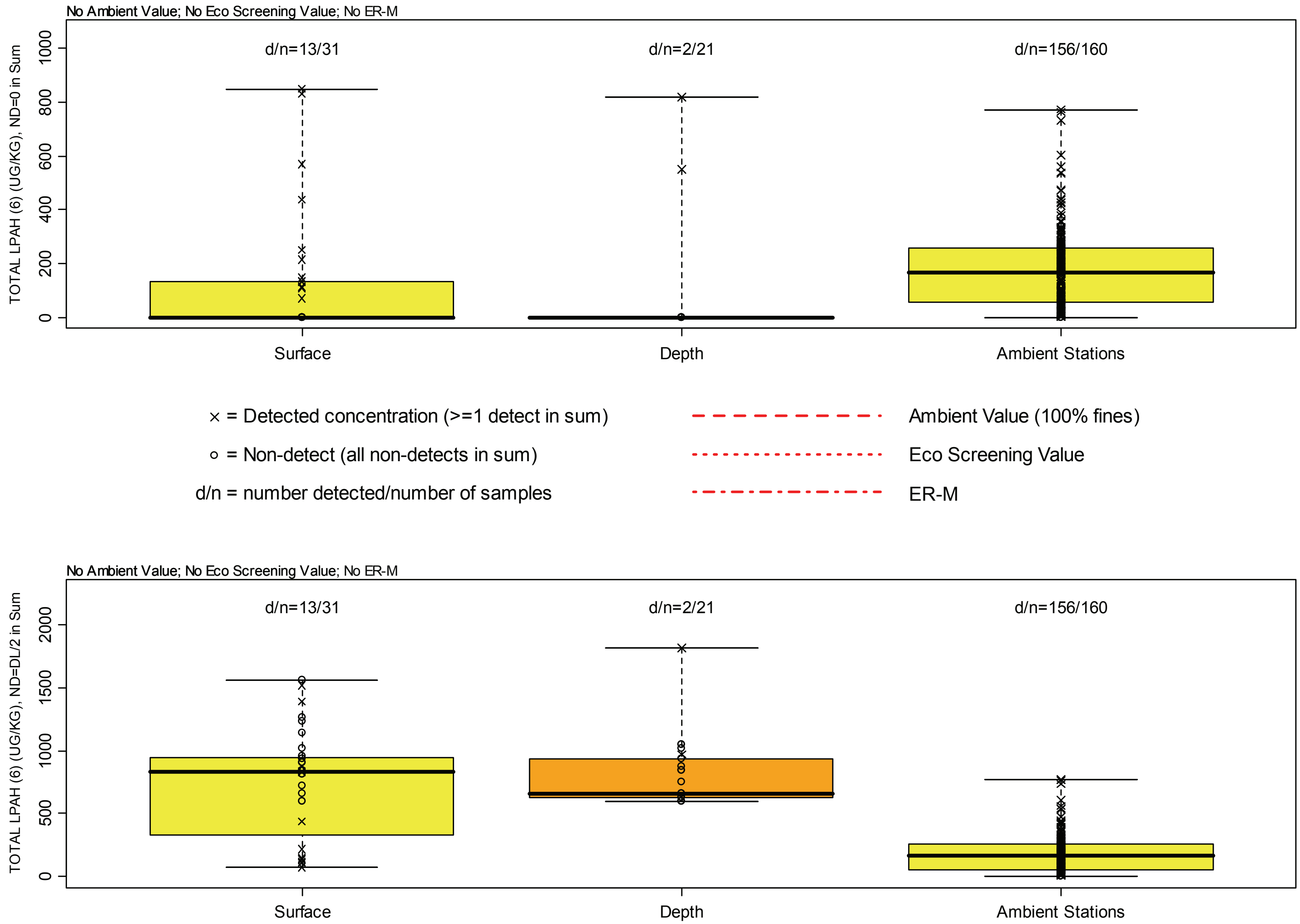


Figure A–315. Box Plots of Total LPAH(6) Concentrations in Breakwater Beach by Depth.

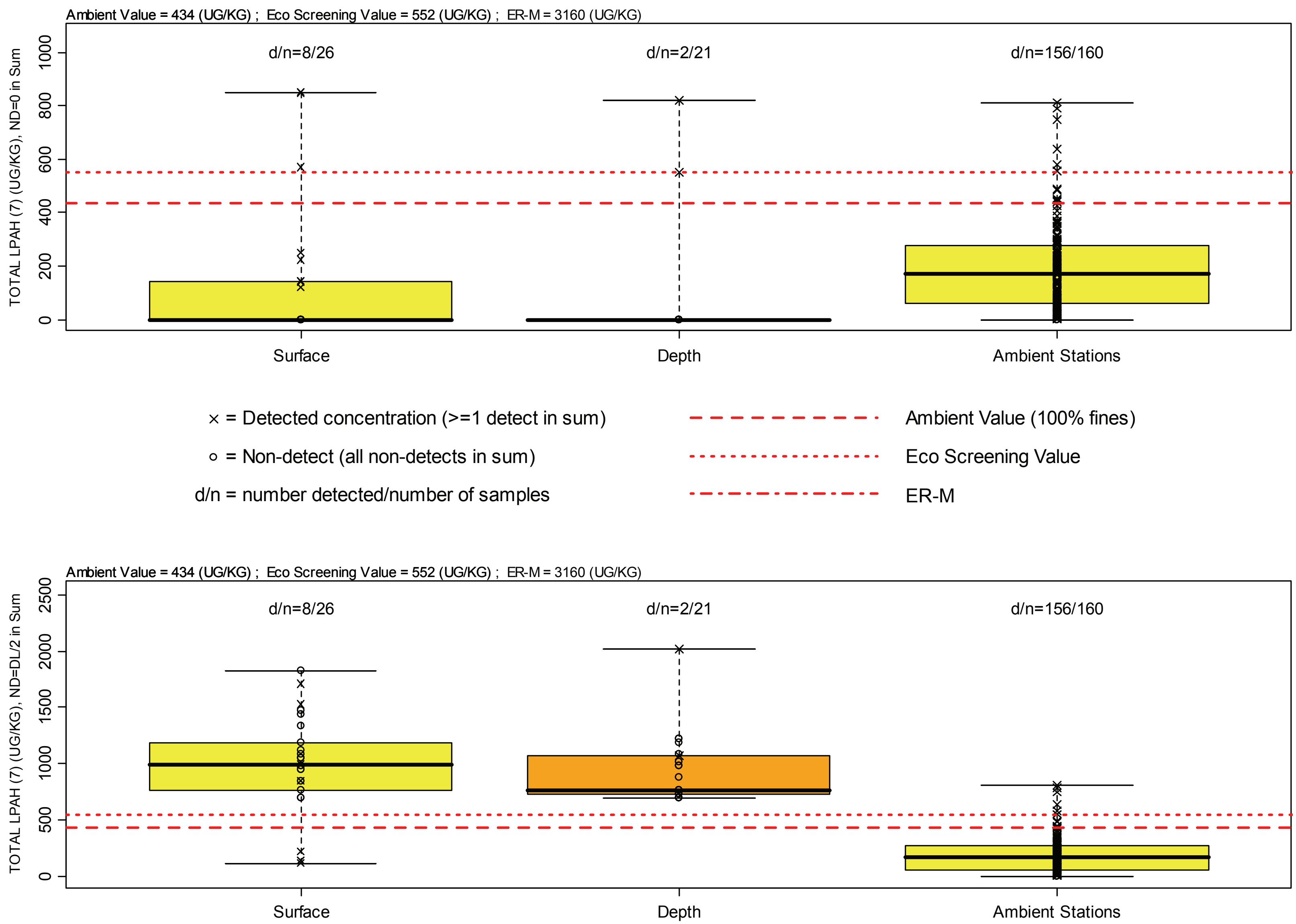


Figure A–316. Box Plots of Total LPAH(7) Concentrations in Breakwater Beach by Depth.

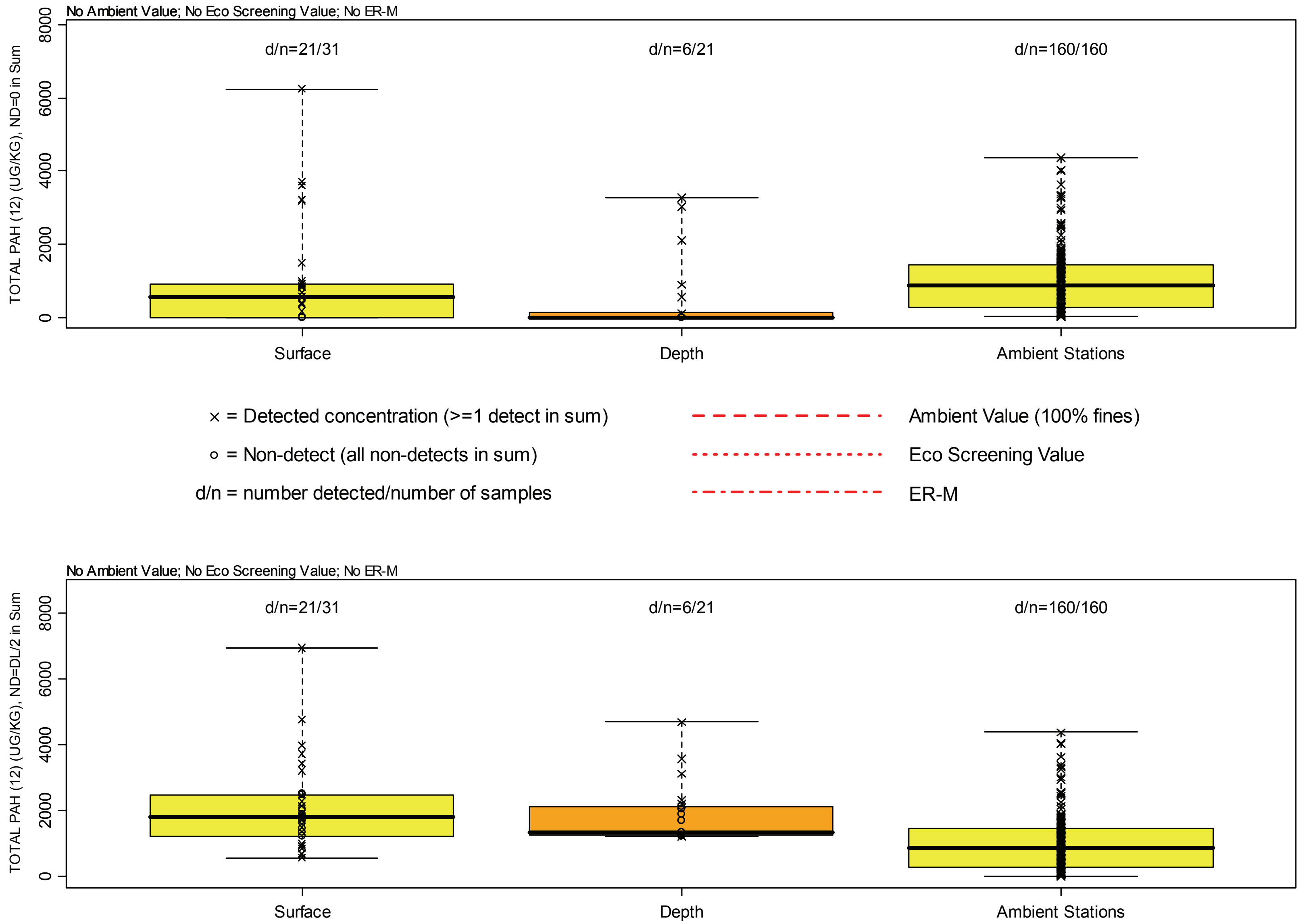


Figure A–317. Box Plots of Total PAH(12) Concentrations in Breakwater Beach by Depth.

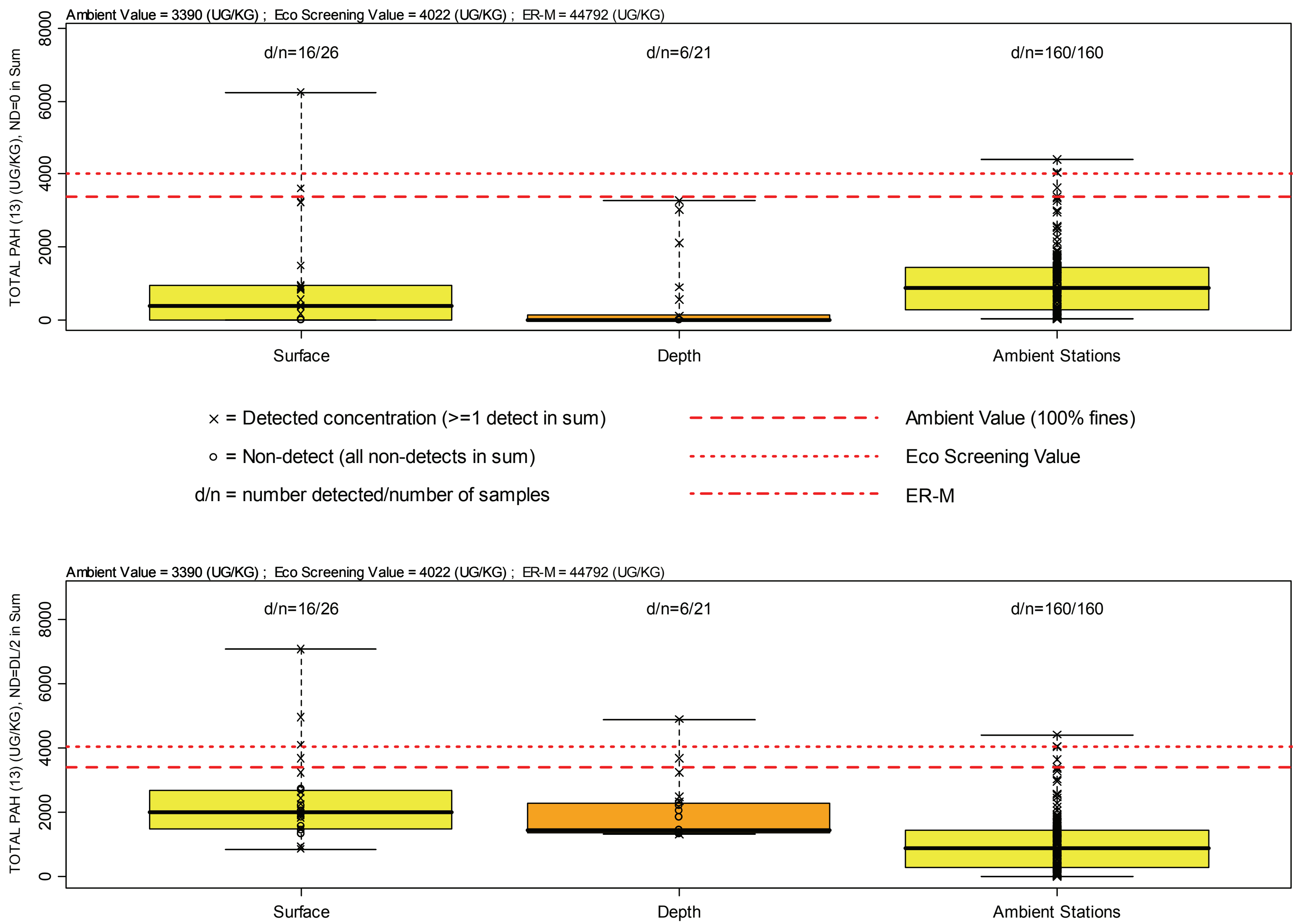


Figure A–318. Box Plots of Total PAH(13) Concentrations in Breakwater Beach by Depth.

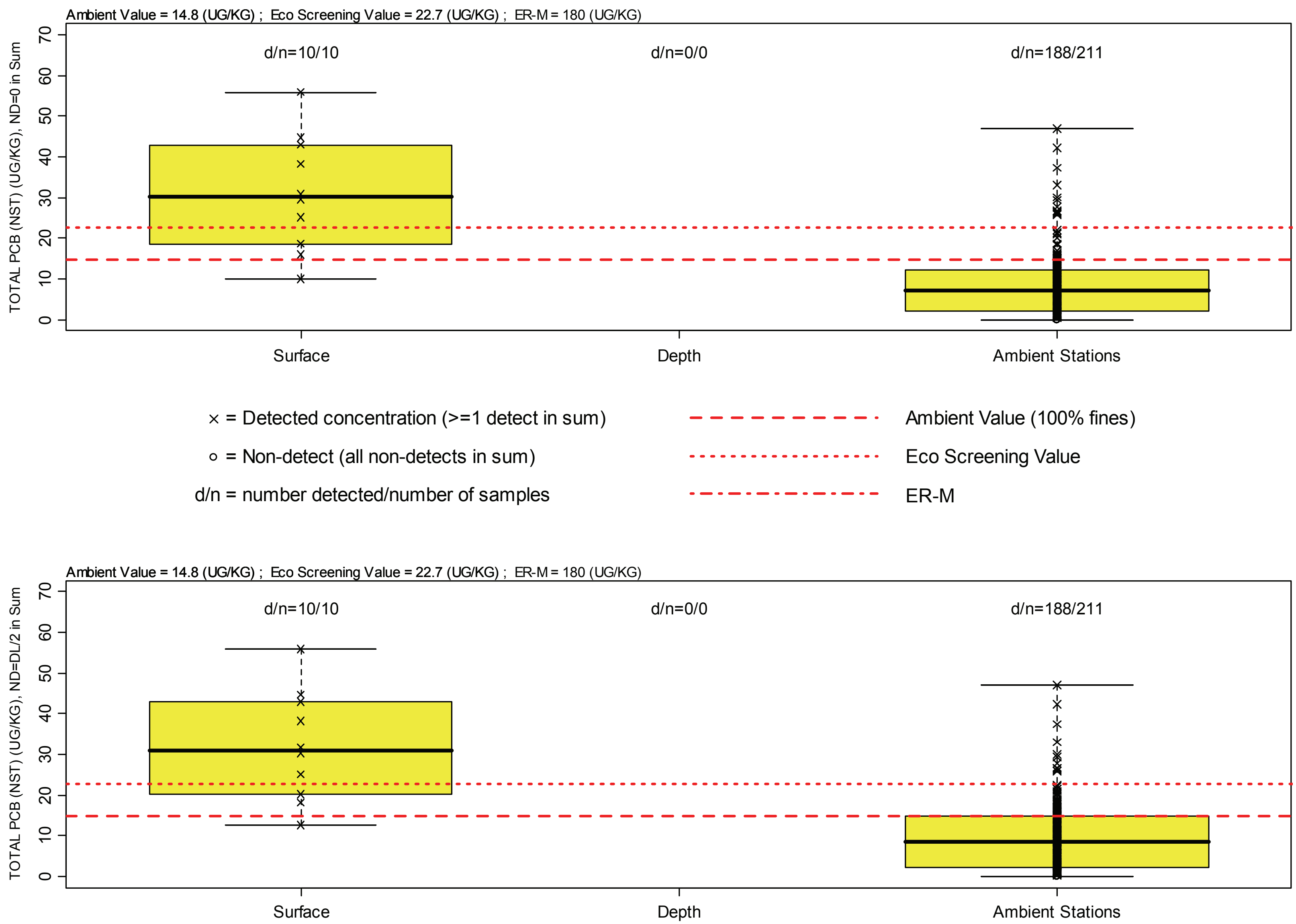


Figure A–319. Box Plots of Total PCB(NST) Concentrations in Breakwater Beach by Depth.

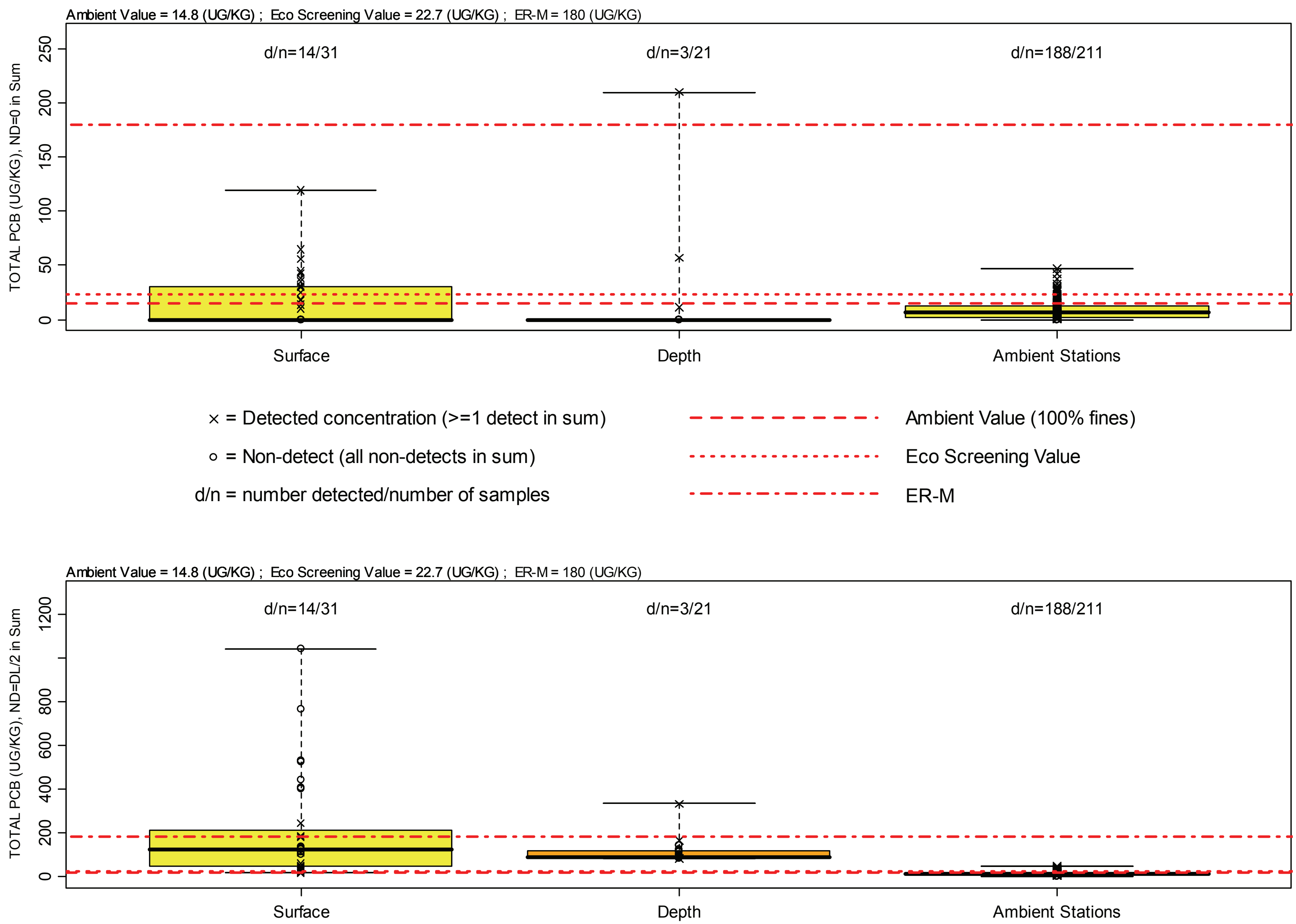


Figure A–320. Box Plots of Total PCB Concentrations in Breakwater Beach by Depth.

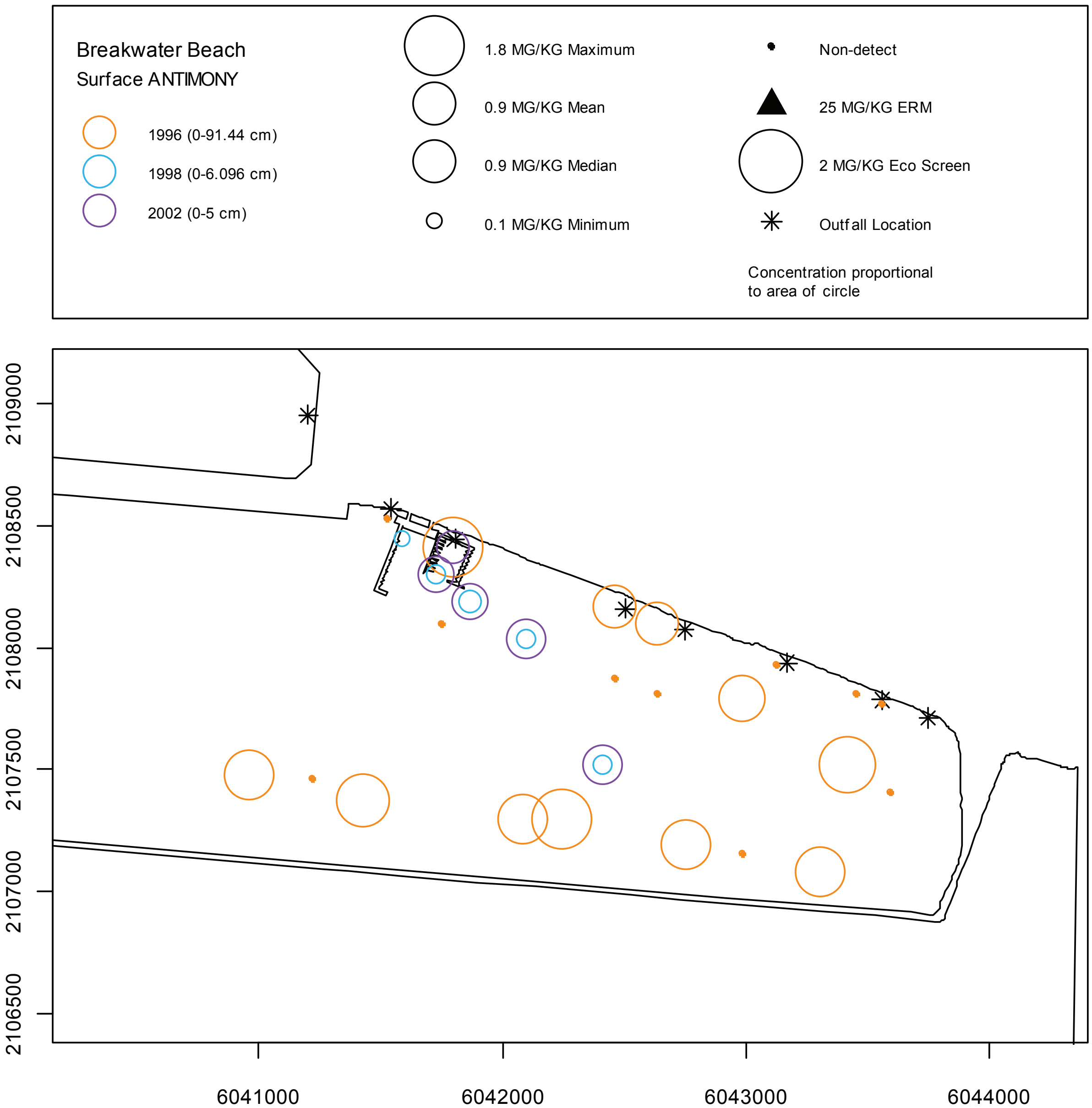


Figure A–321. Bubble Plots of Antimony in Breakwater Beach Surface Sediment by Year.

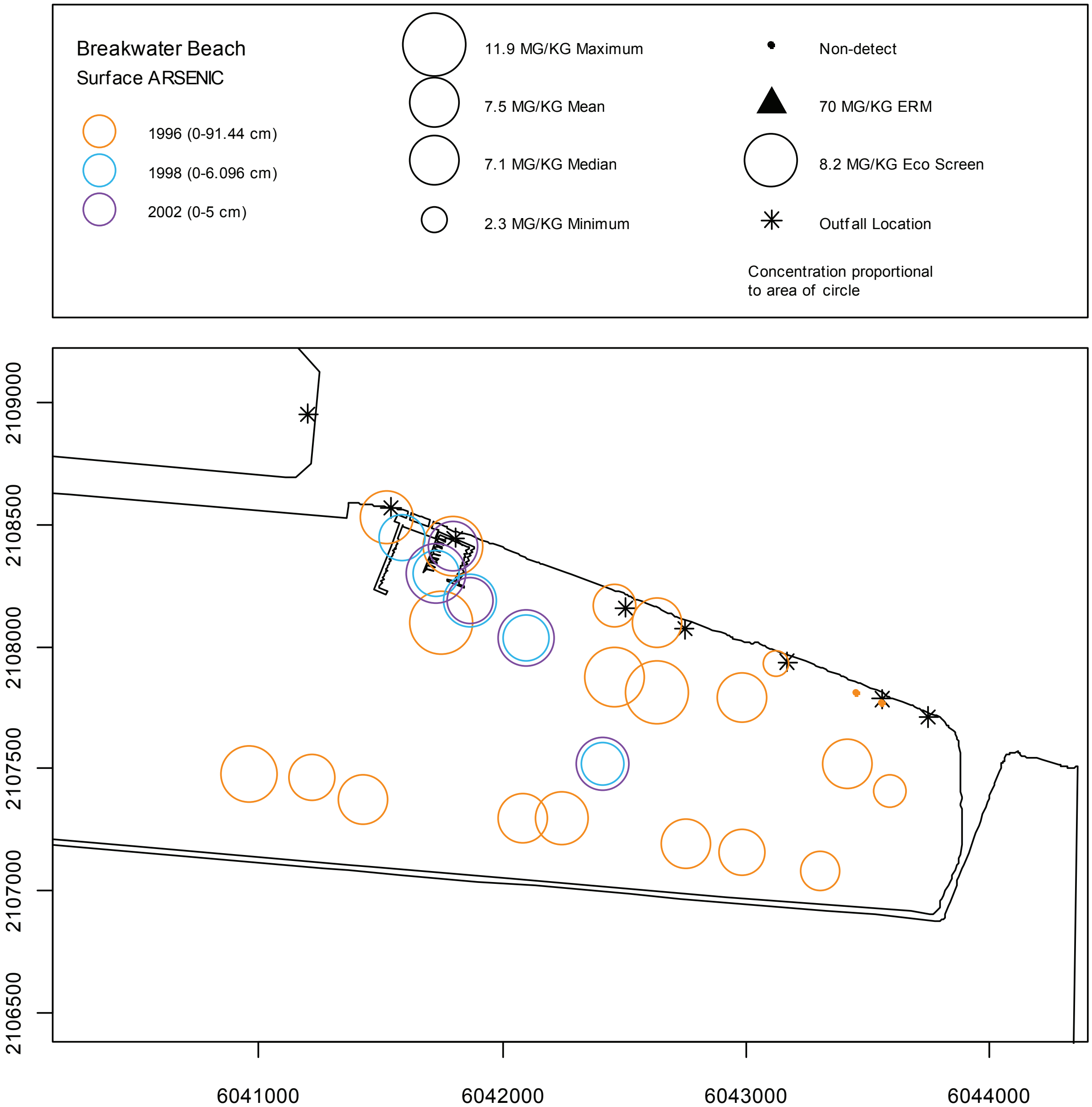


Figure A–322. Bubble Plots of Arsenic in Breakwater Beach Surface Sediment by Year.

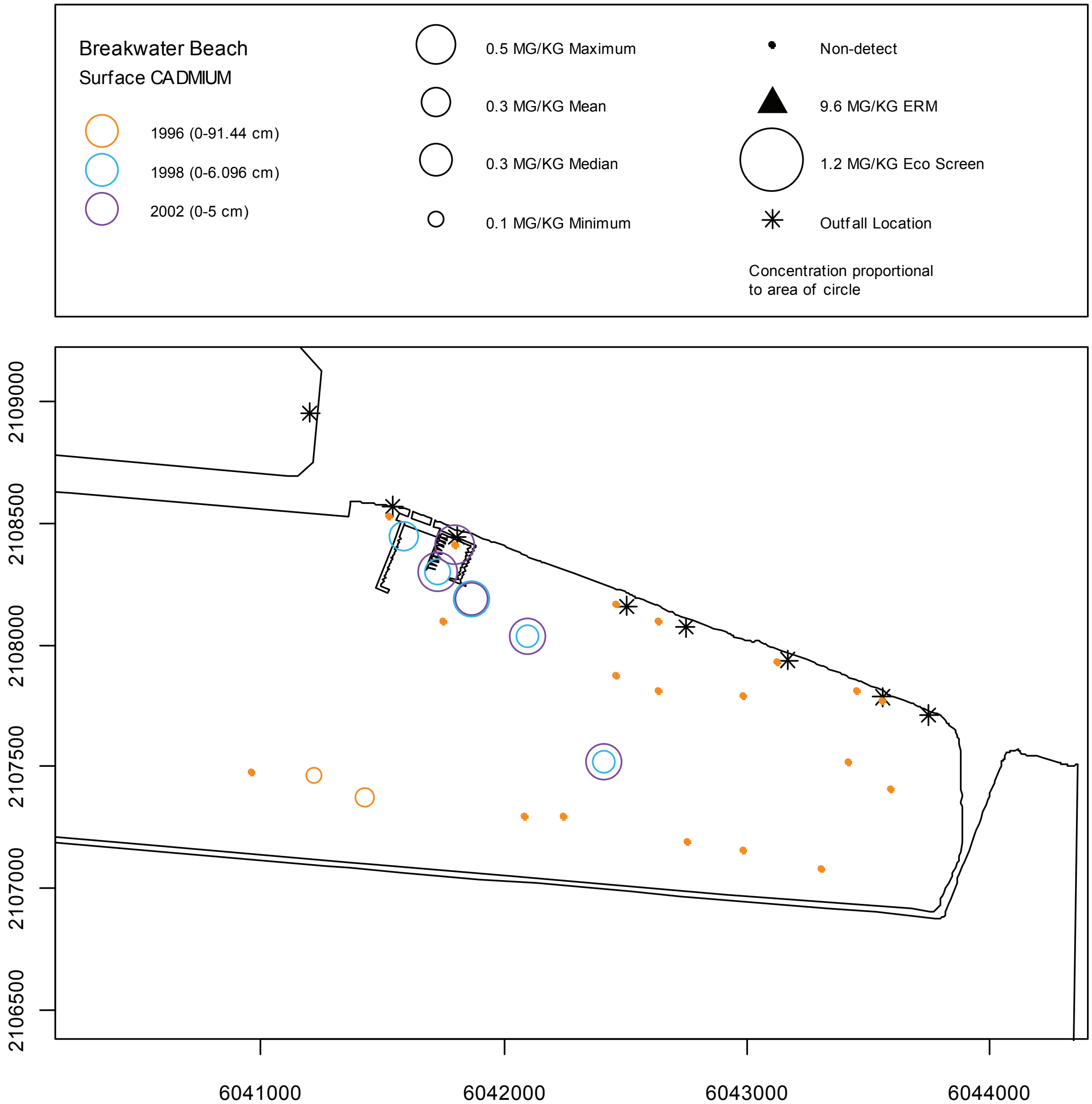


Figure A–323. Bubble Plots of Cadmium in Breakwater Beach Surface Sediment by Year.

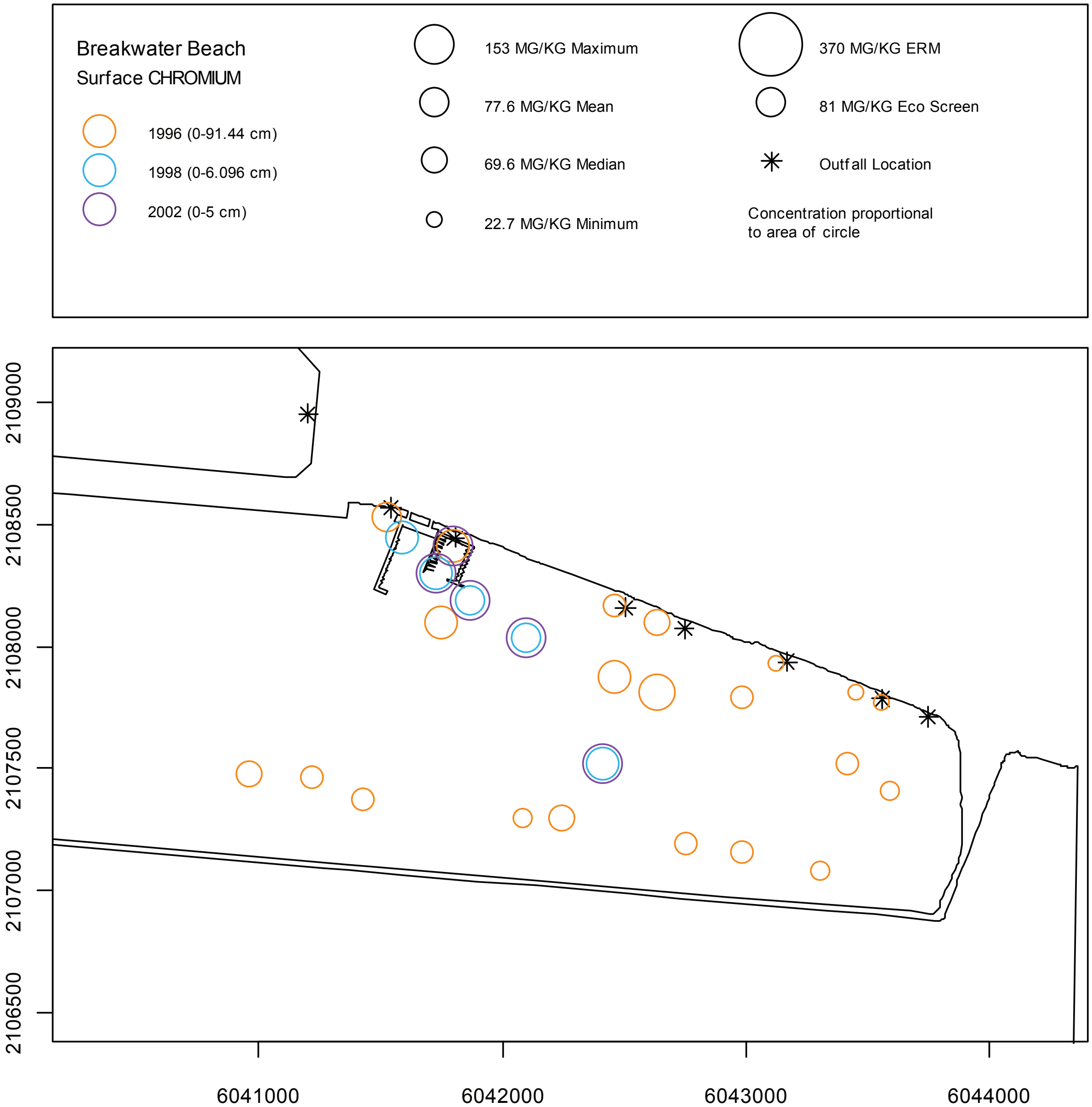


Figure A–324. Bubble Plots of Chromium in Breakwater Beach Surface Sediment by Year.

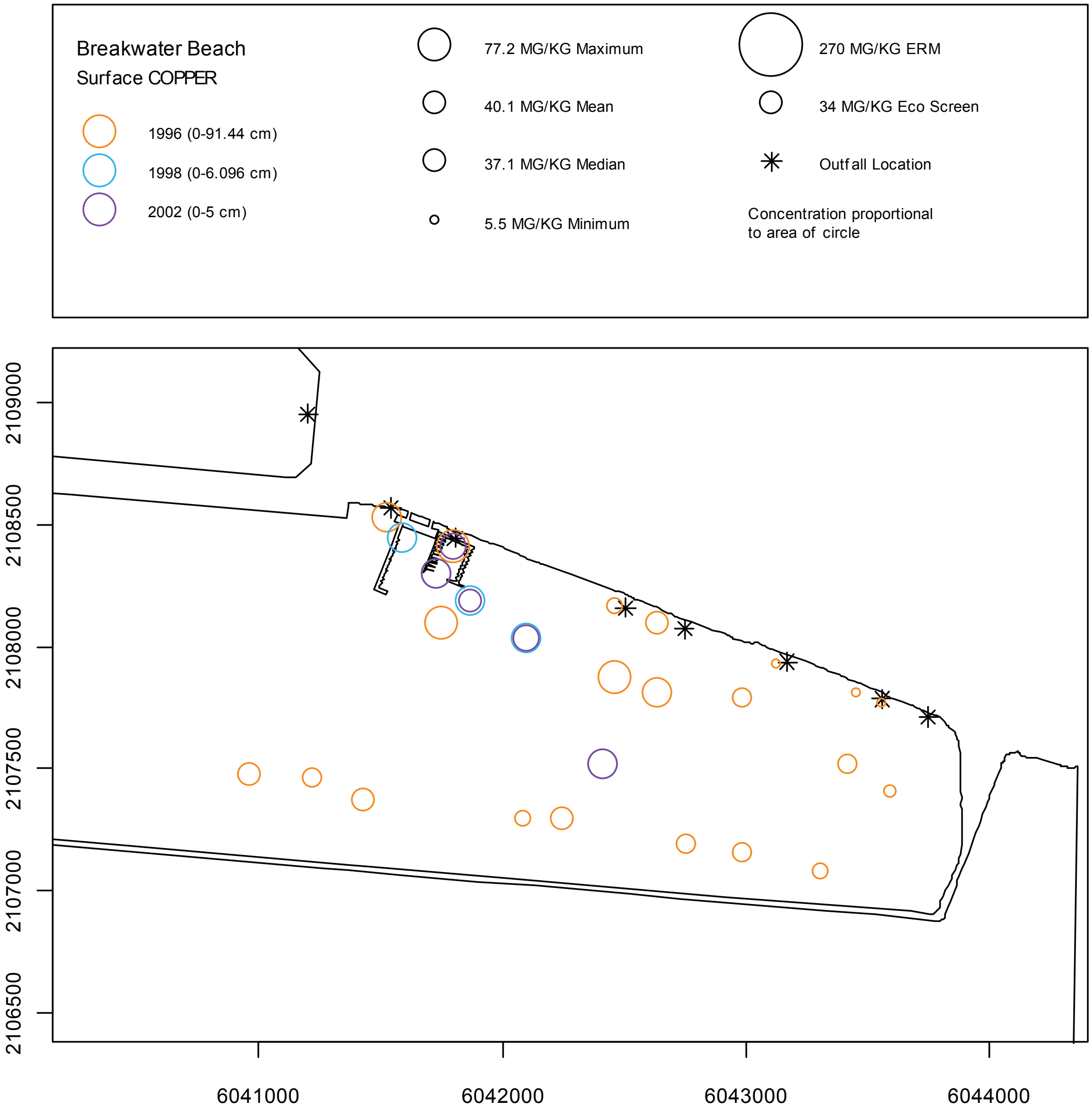


Figure A–325. Bubble Plots of Copper in Breakwater Beach Surface Sediment by Year.

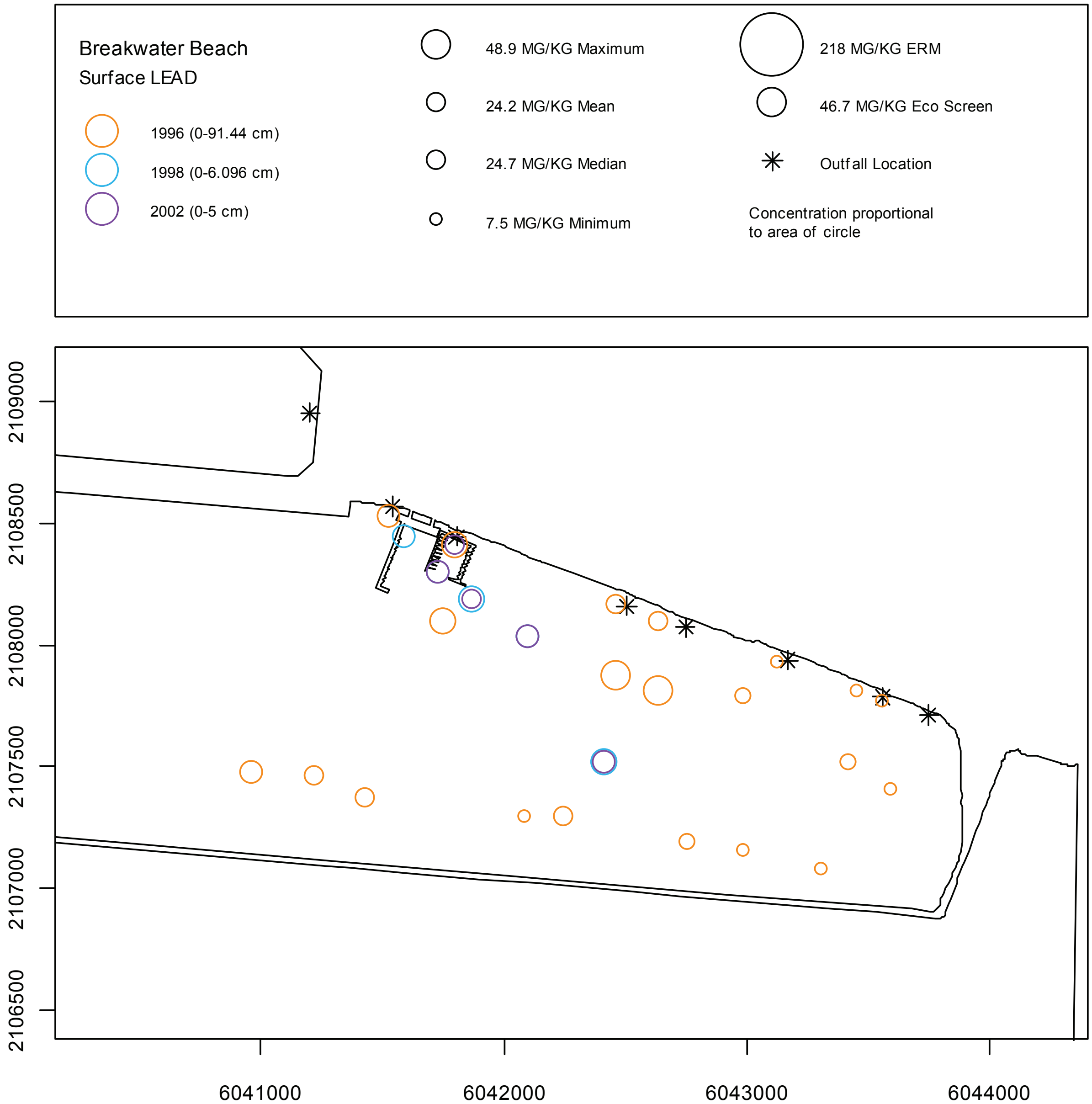


Figure A–326. Bubble Plots of Lead in Breakwater Beach Surface Sediment by Year.

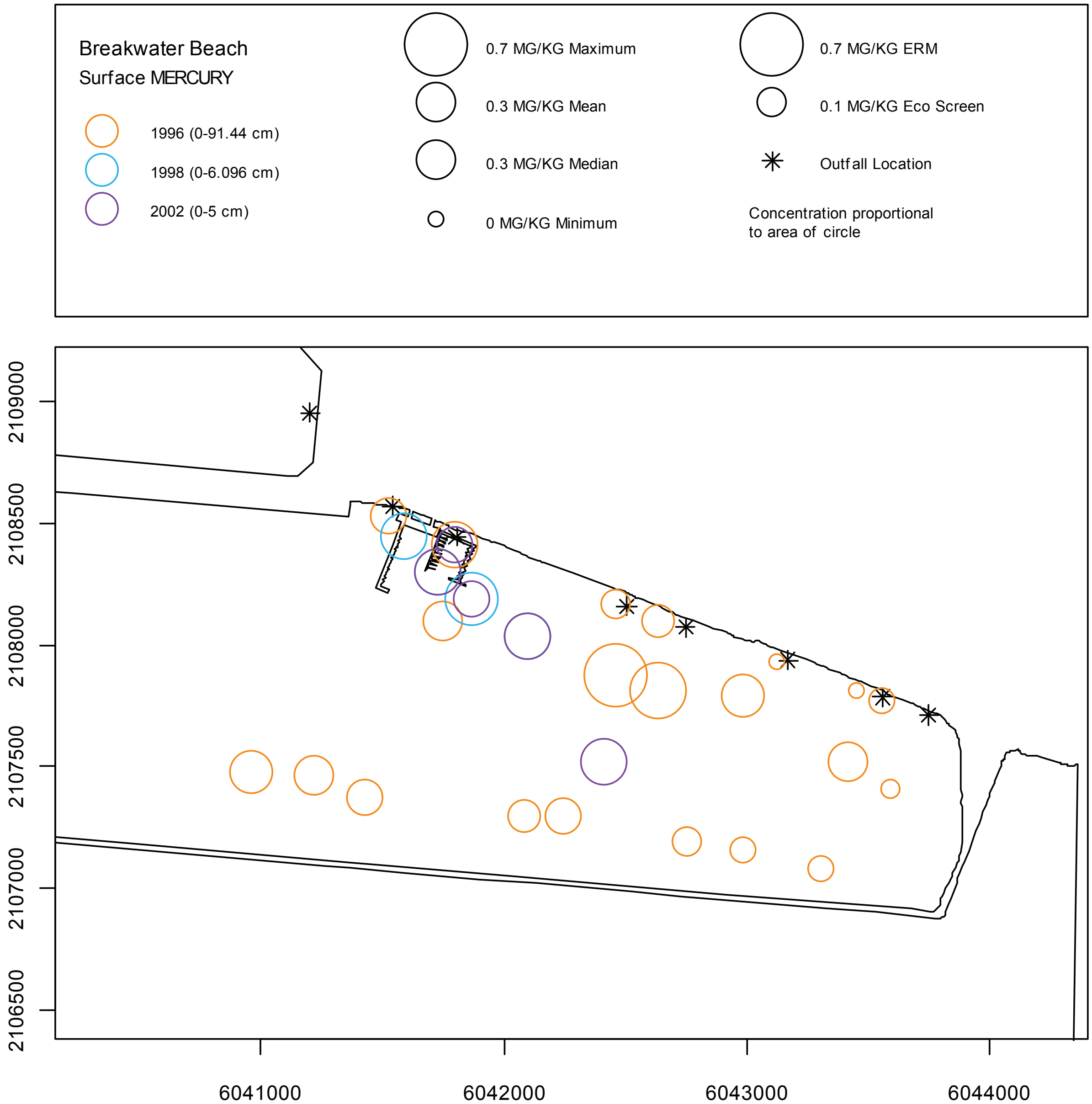


Figure A–327. Bubble Plots of Mercury in Breakwater Beach Surface Sediment by Year.

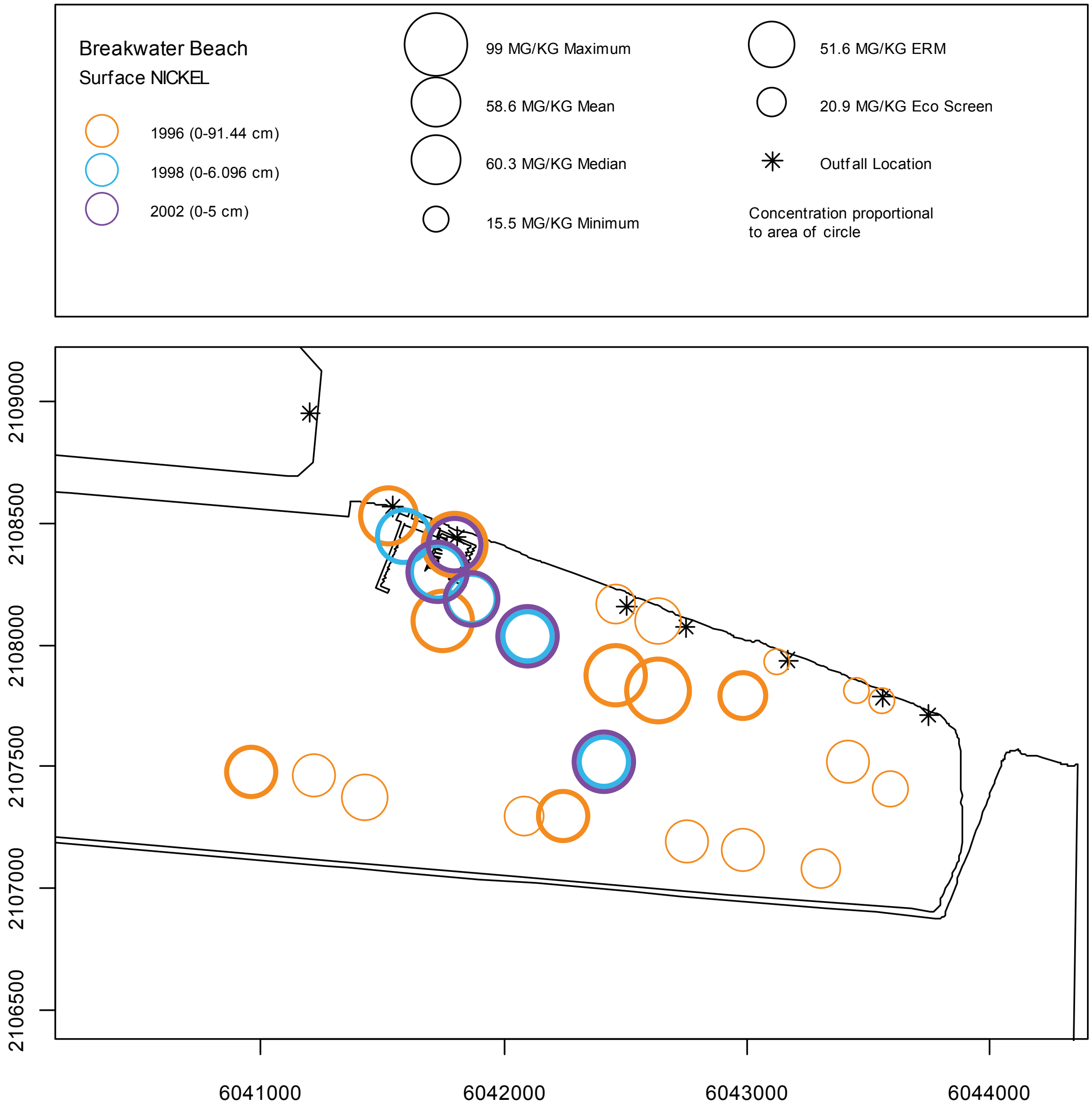


Figure A–328. Bubble Plots of Nickel in Breakwater Beach Surface Sediment by Year.

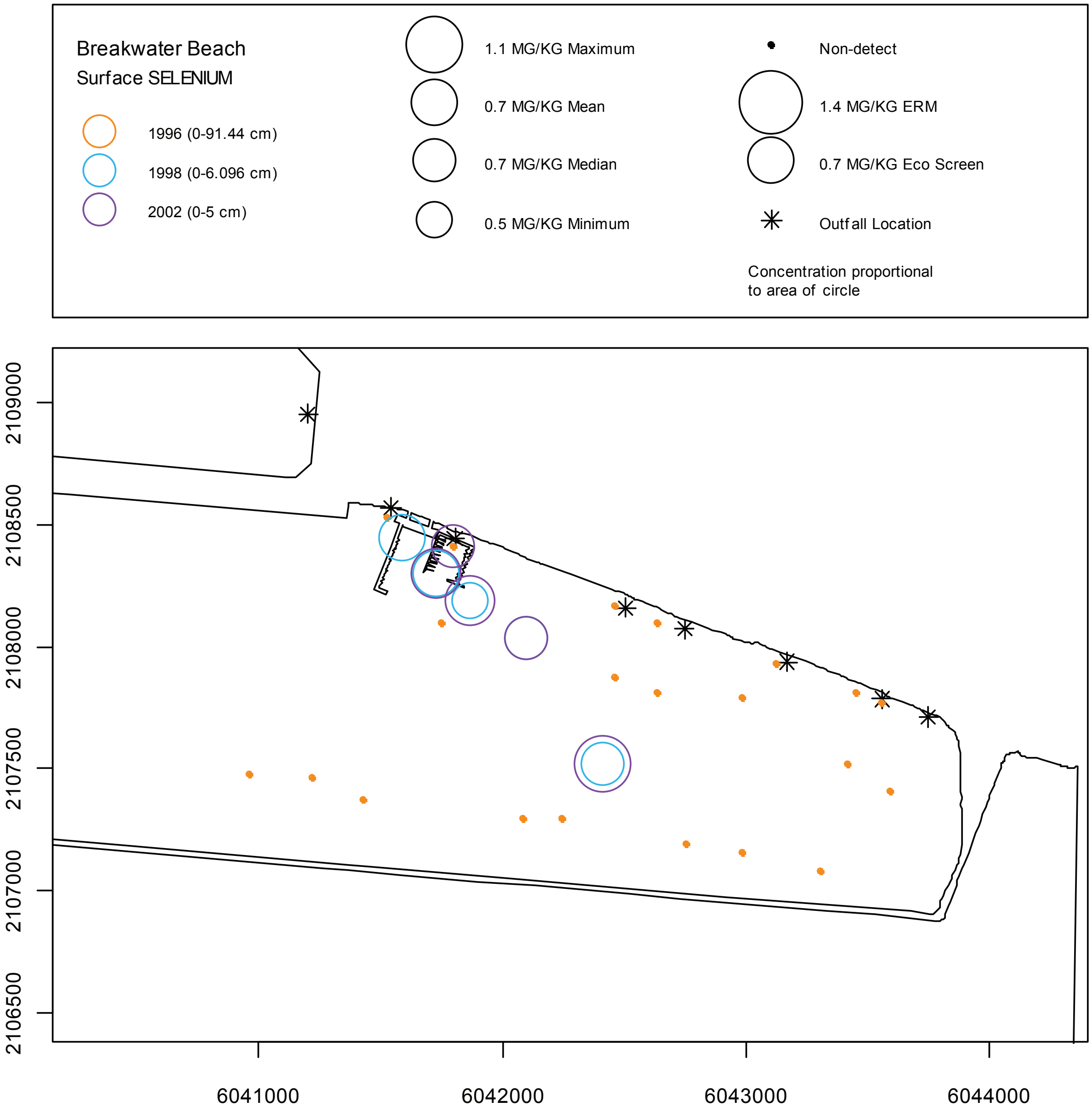


Figure A–329. Bubble Plots of Selenium in Breakwater Beach Surface Sediment by Year.

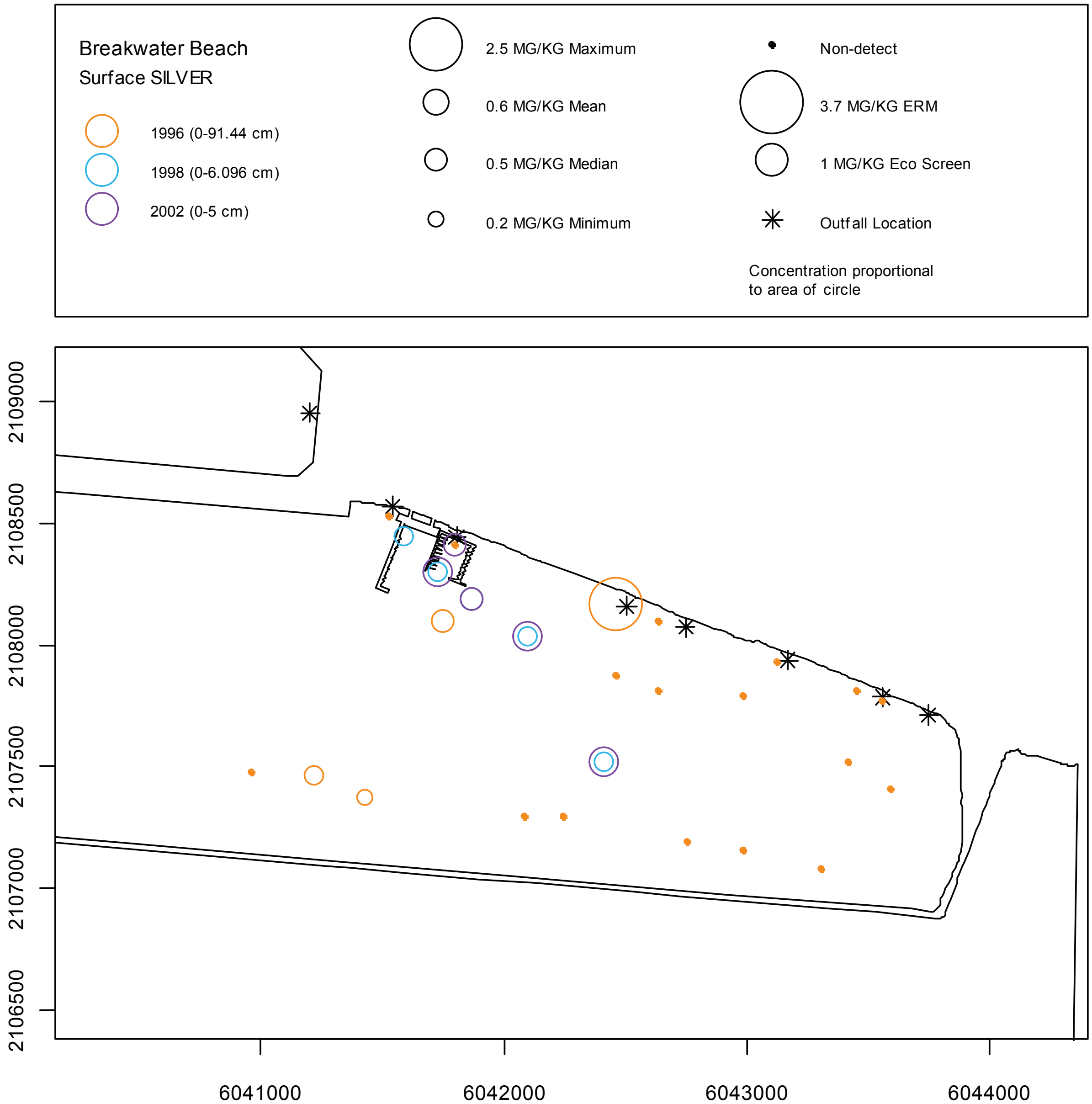


Figure A–330. Bubble Plots of Silver in Breakwater Beach Surface Sediment by Year.

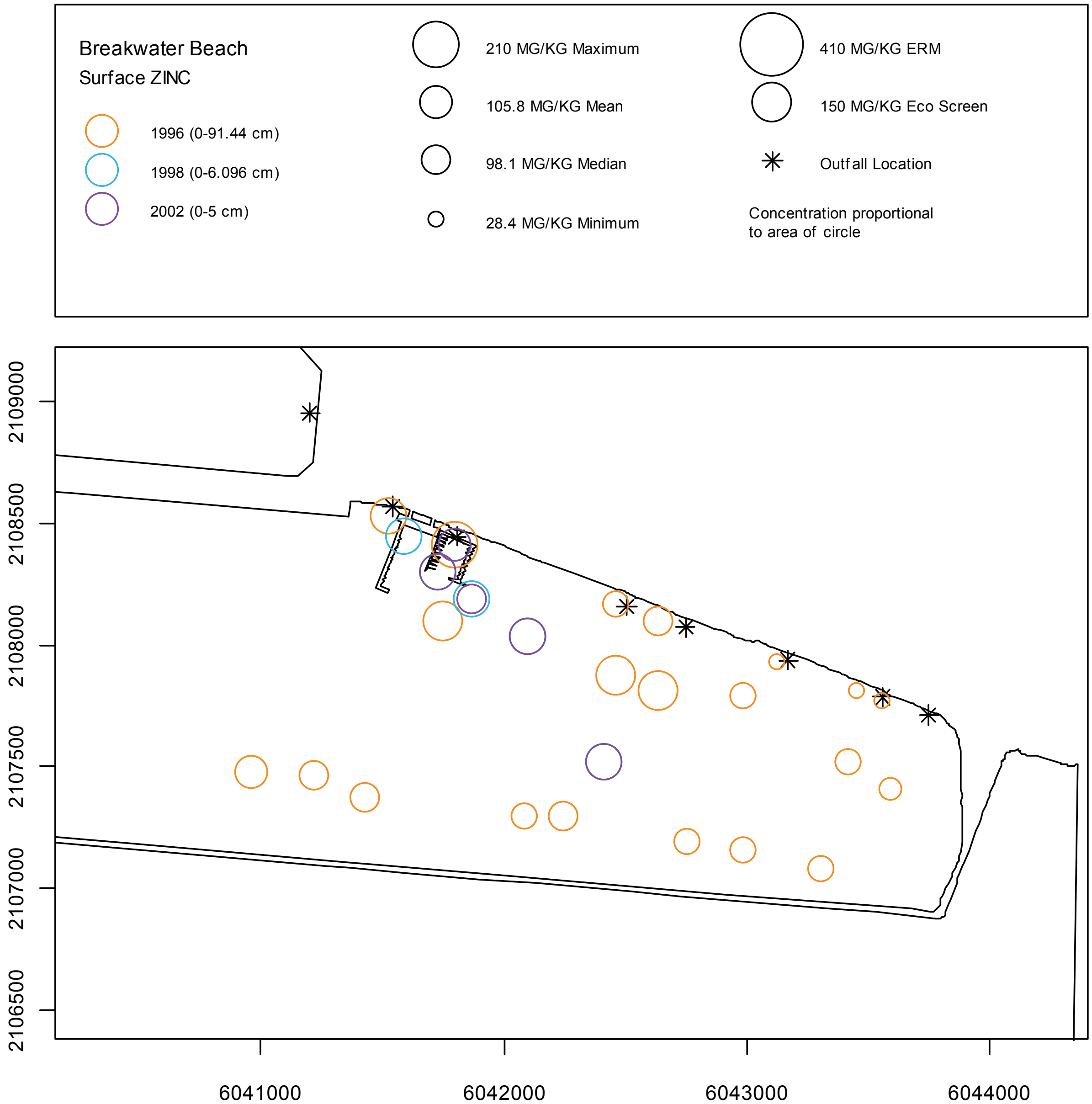


Figure A–331. Bubble Plots of Zinc in Breakwater Beach Surface Sediment by Year.

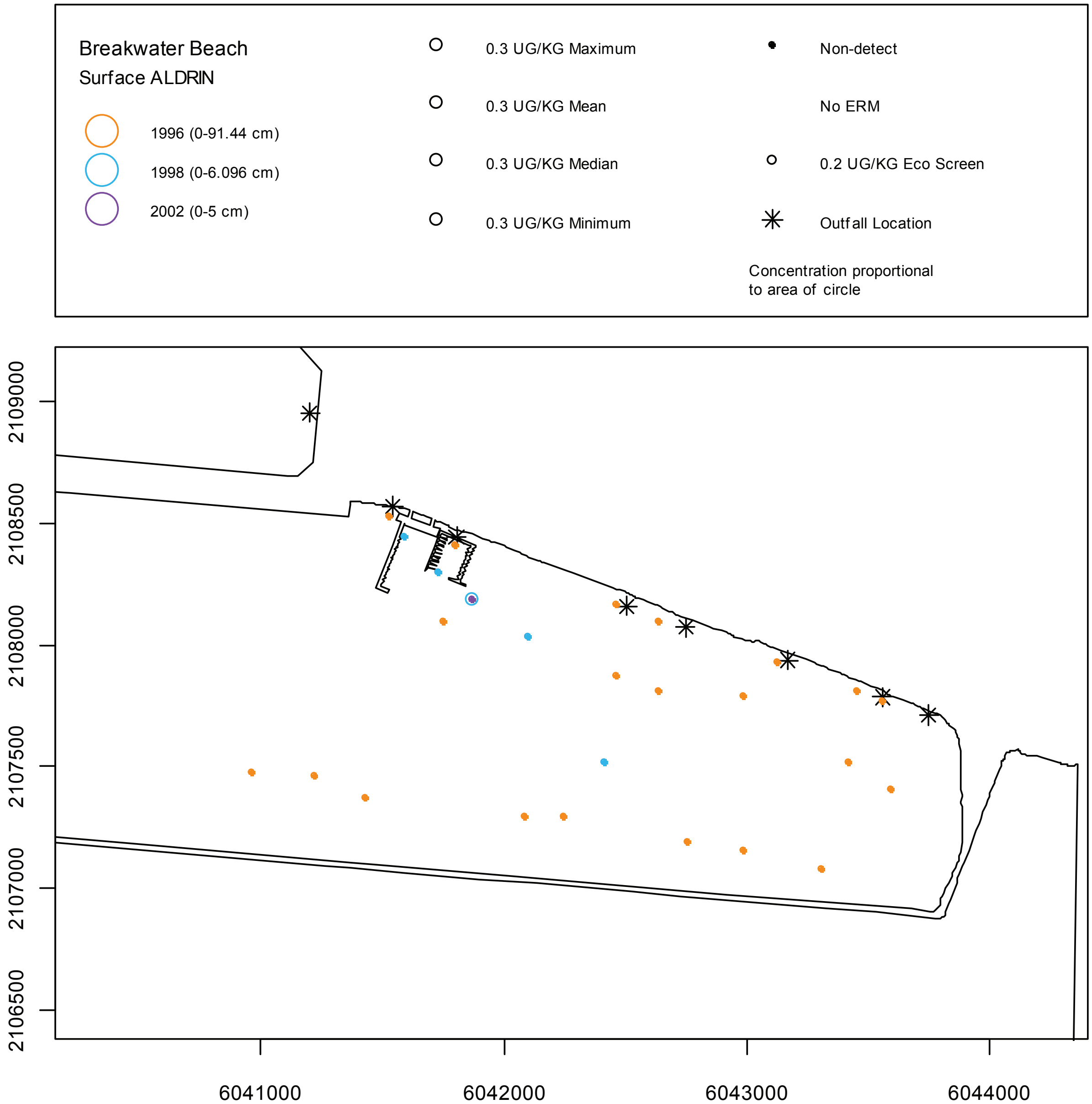


Figure A–332. Bubble Plots of Aldrin in Breakwater Beach Surface Sediment by Year.

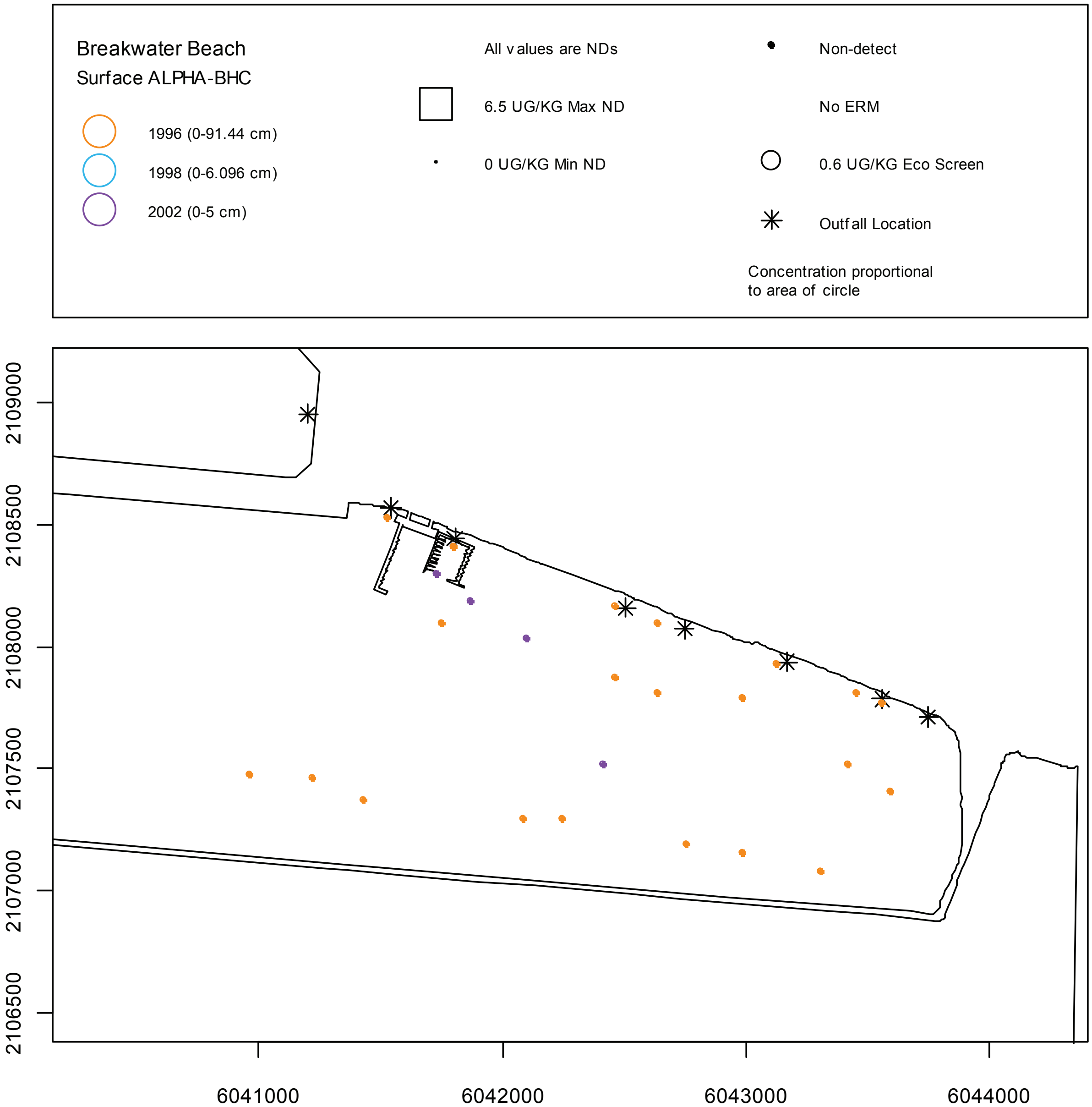


Figure A–333. Bubble Plots of *alpha*-BHC in Breakwater Beach Surface Sediment by Year.

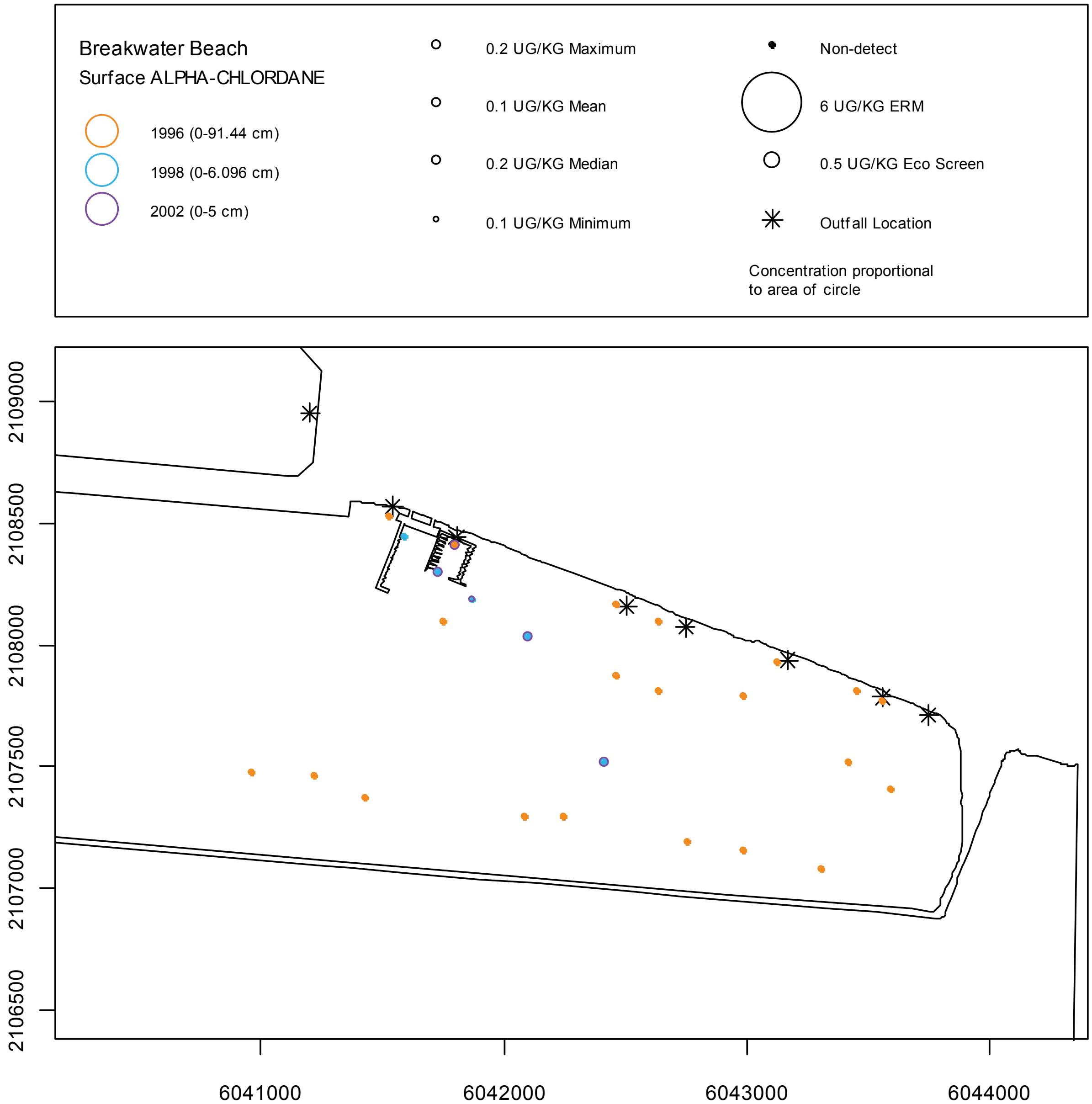


Figure A–334. Bubble Plots of *alpha*-Chlordane in Breakwater Beach Surface Sediment by Year.

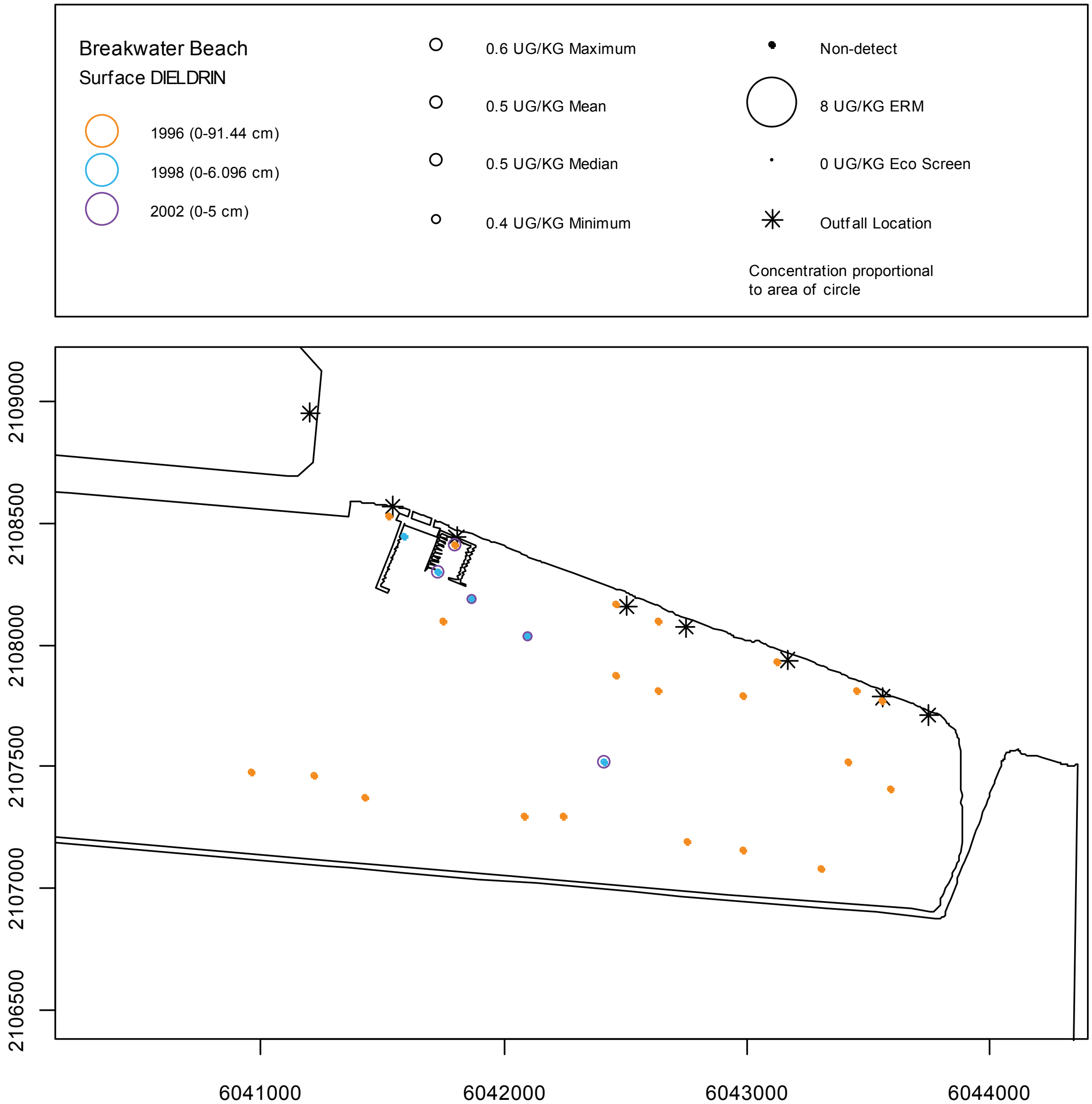


Figure A–335. Bubble Plots of Dieldrin in Breakwater Beach Surface Sediment by Year.

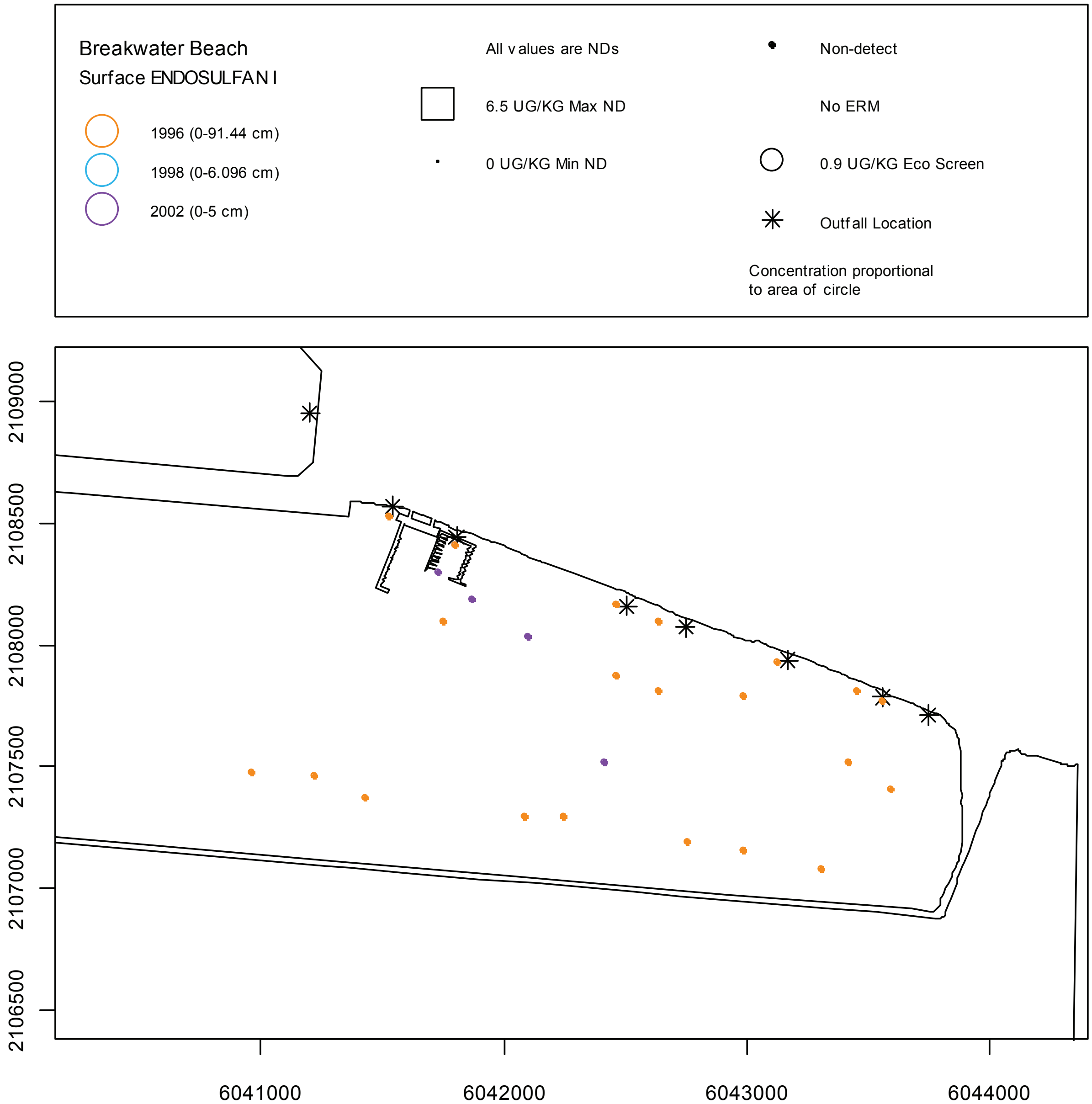


Figure A–336. Bubble Plots of Endosulfan I in Breakwater Beach Surface Sediment by Year.

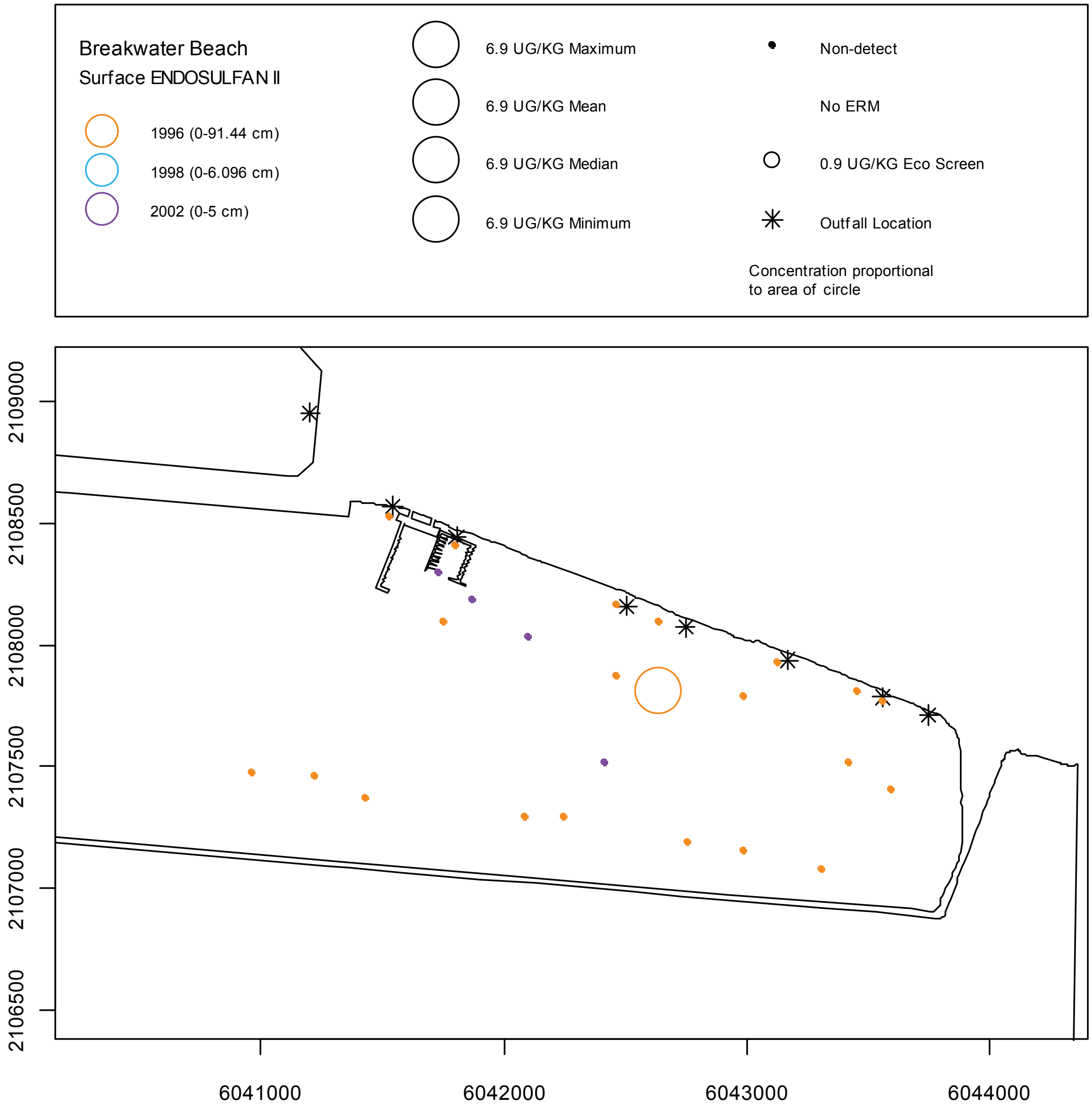


Figure A–337. Bubble Plots of Endosulfan II in Breakwater Beach Surface Sediment by Year..

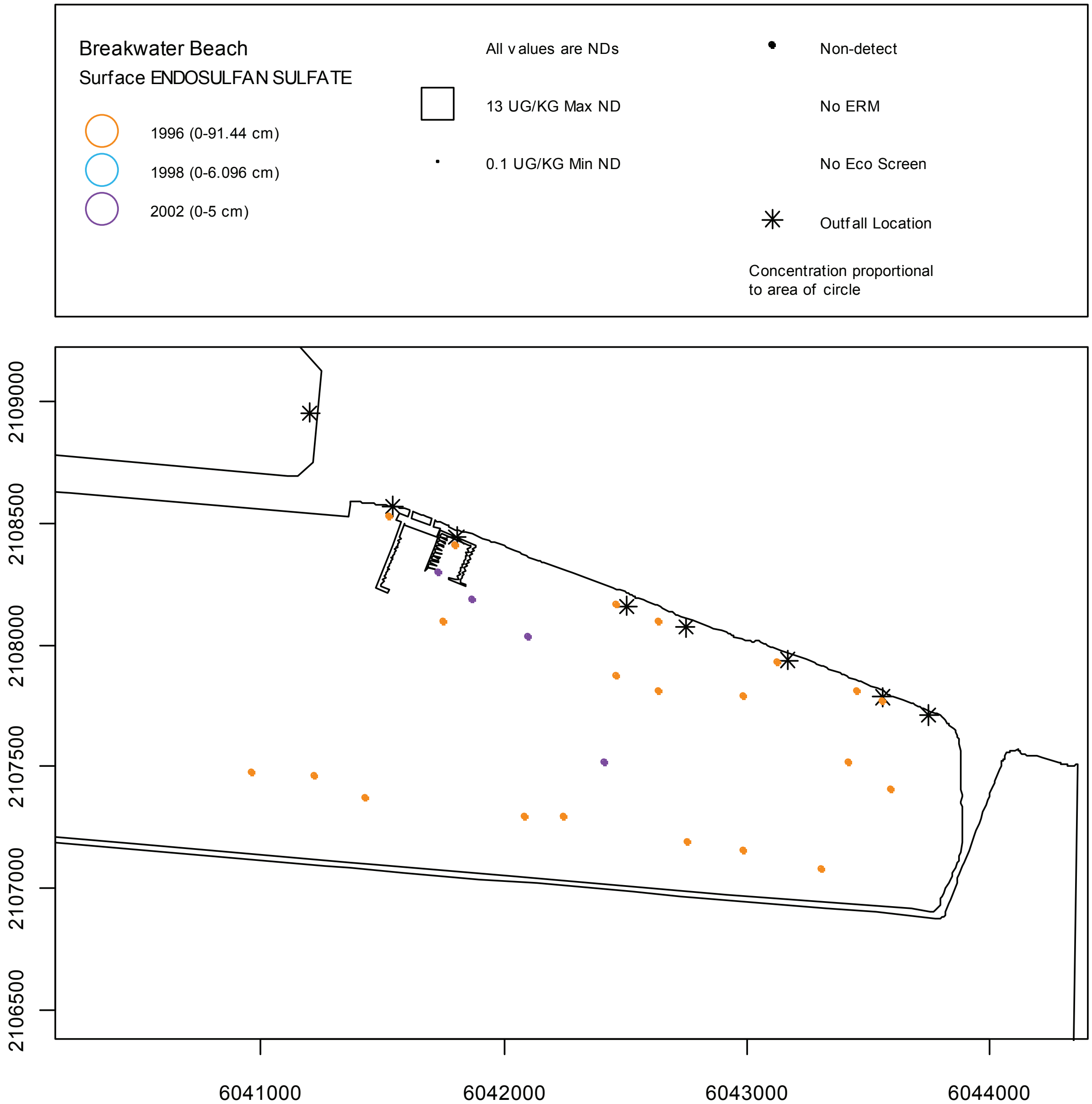


Figure A–338. Bubble Plots of Endosulfan Sulfate in Breakwater Beach Surface Sediment by Year.

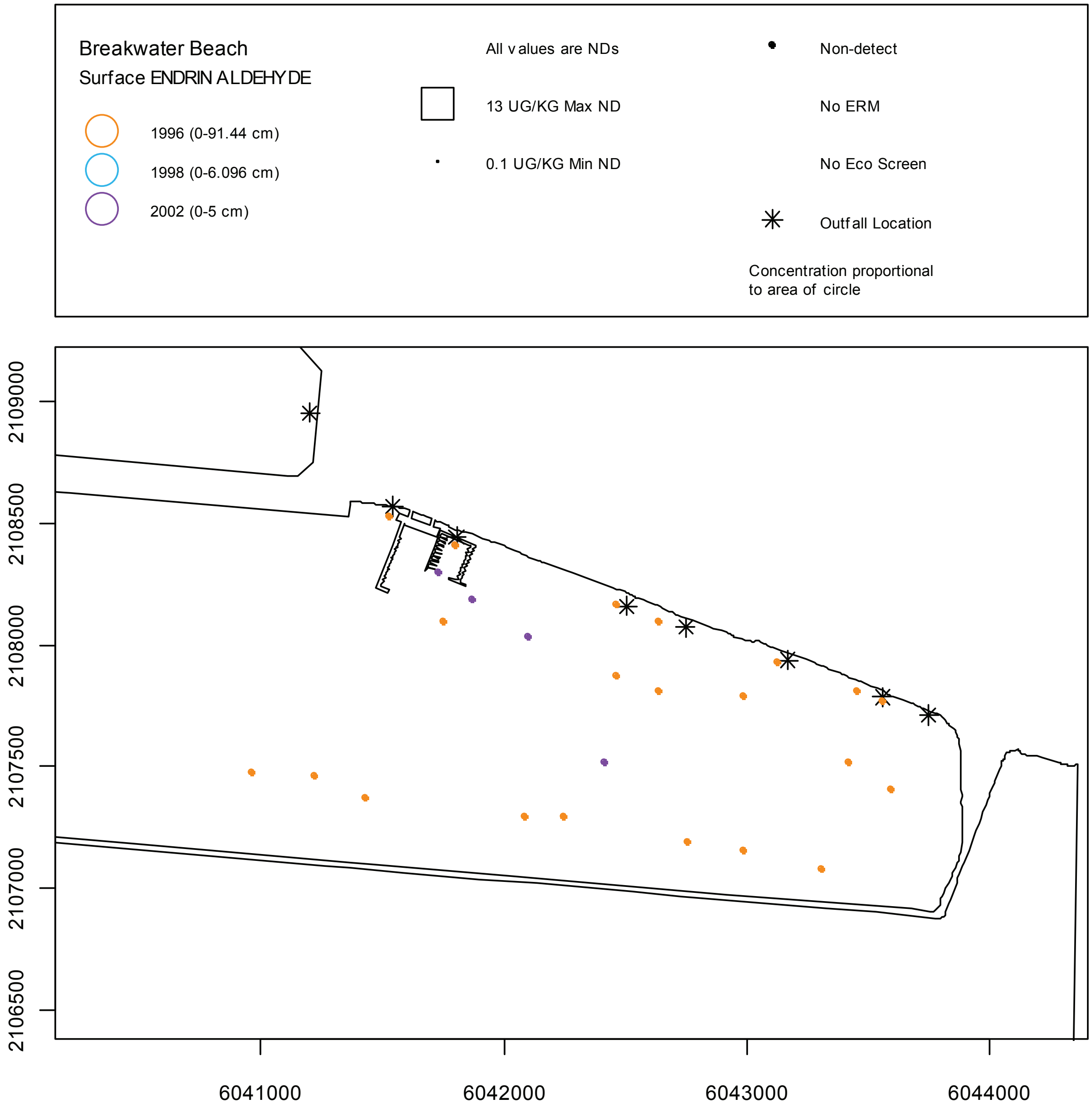


Figure A–339. Bubble Plots of Endrin Aldehyde in Breakwater Beach Surface Sediment by Year.

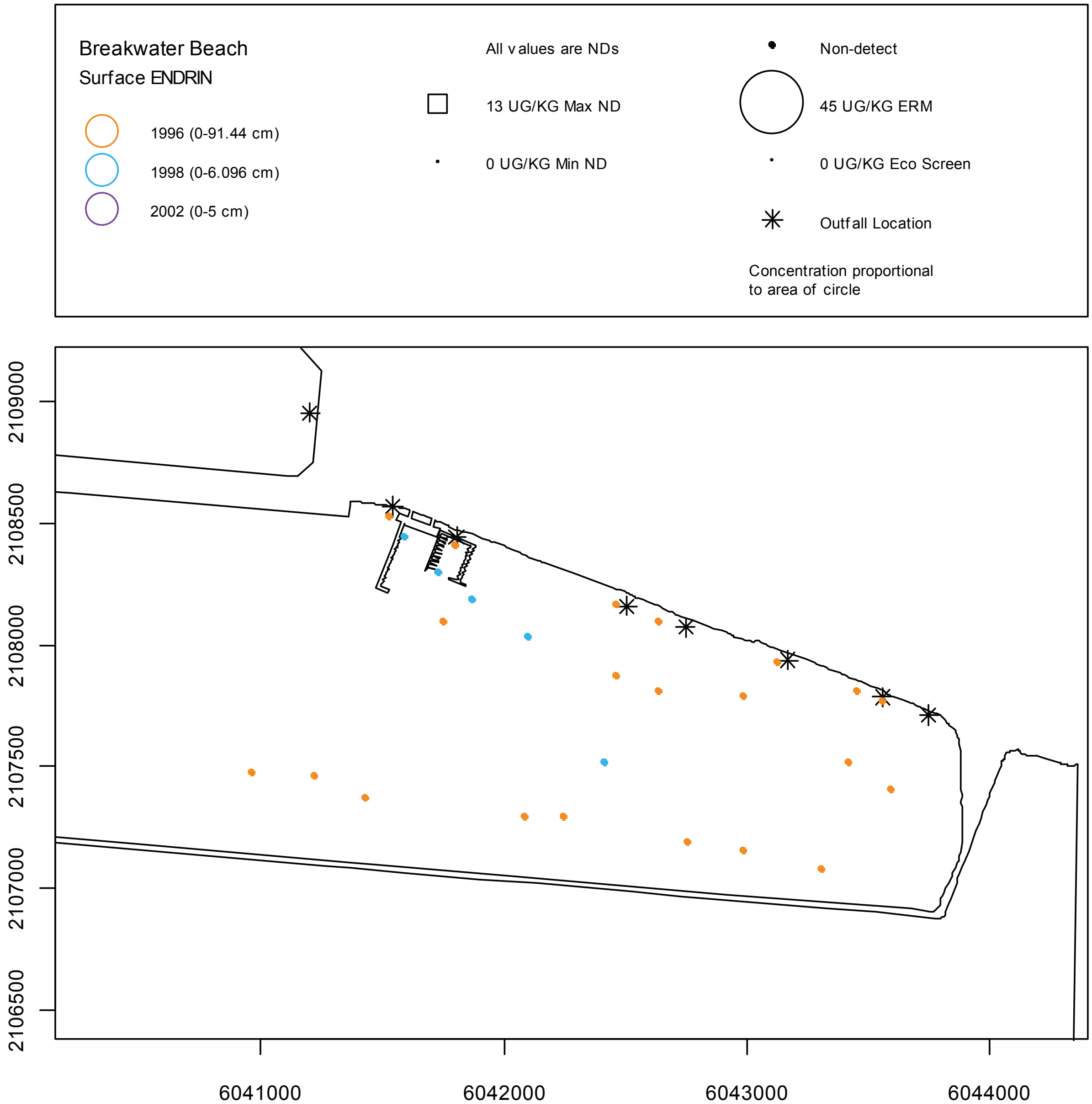


Figure A–340. Bubble Plots of Endrin in Breakwater Beach Surface Sediment by Year.

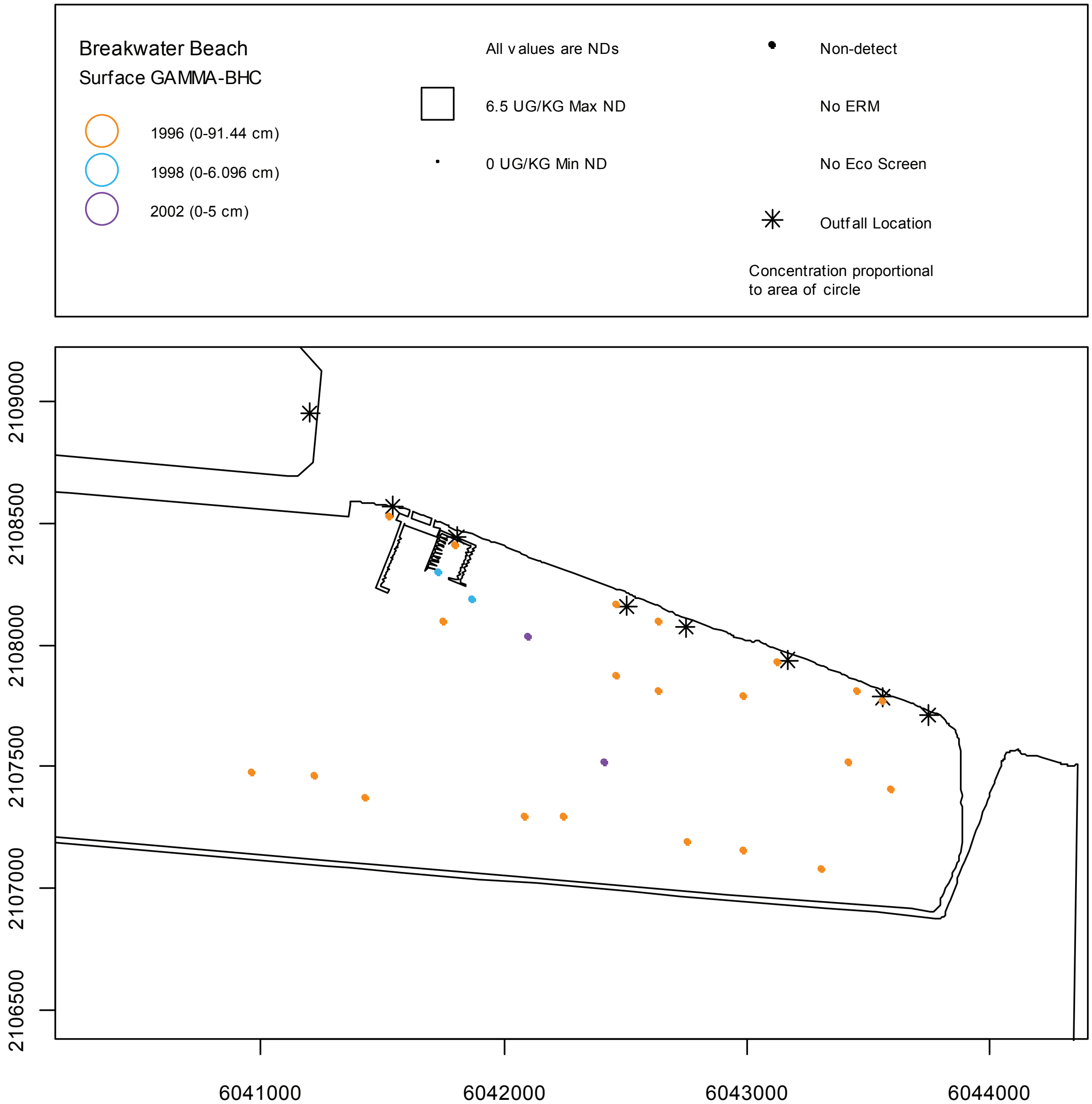


Figure A–341. Bubble Plots of *gamma*-BHC in Breakwater Beach Surface Sediment by Year.

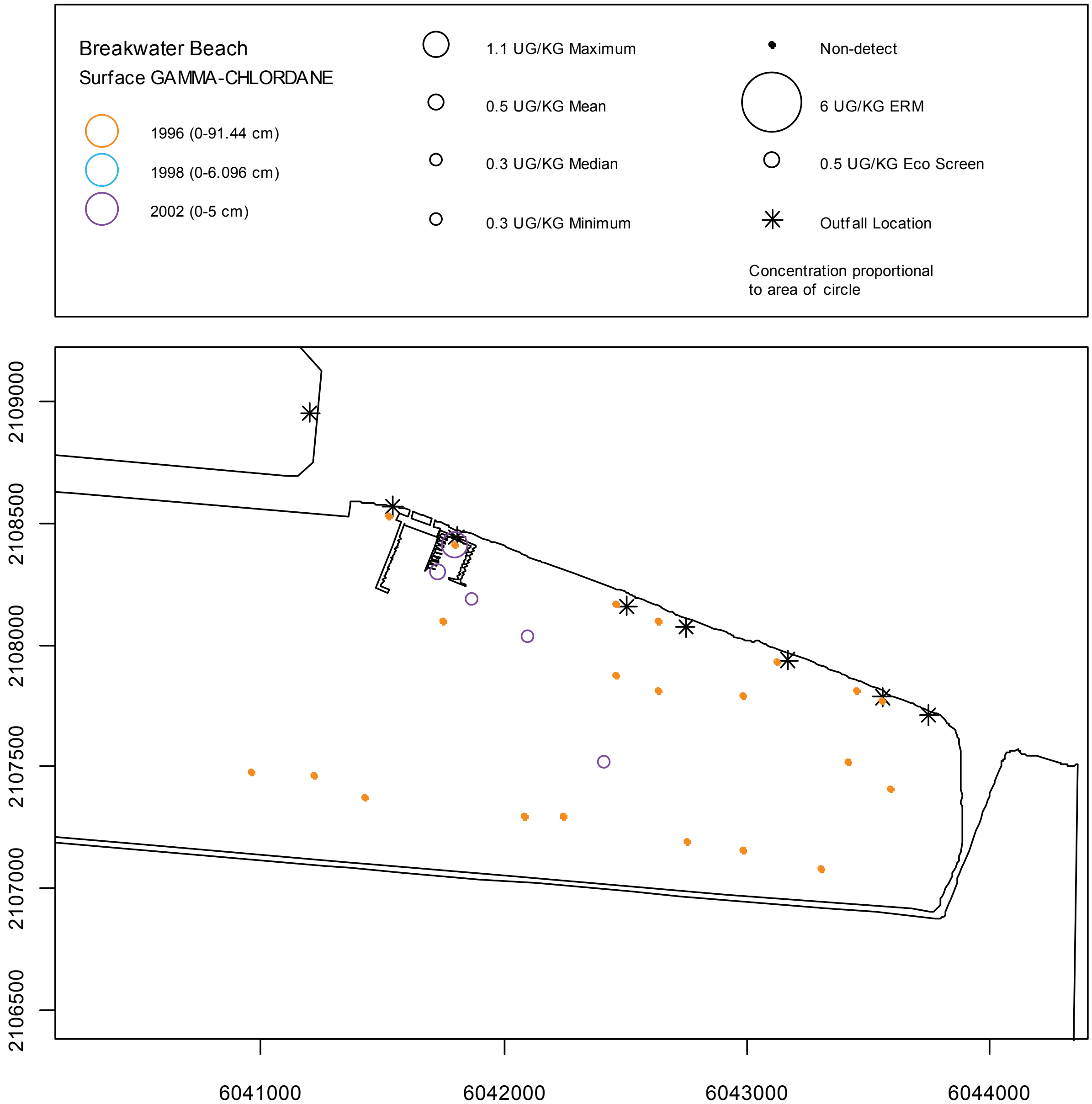


Figure A–342. Bubble Plots of *gamma*-Chlordane in Breakwater Beach Surface Sediment by Year.

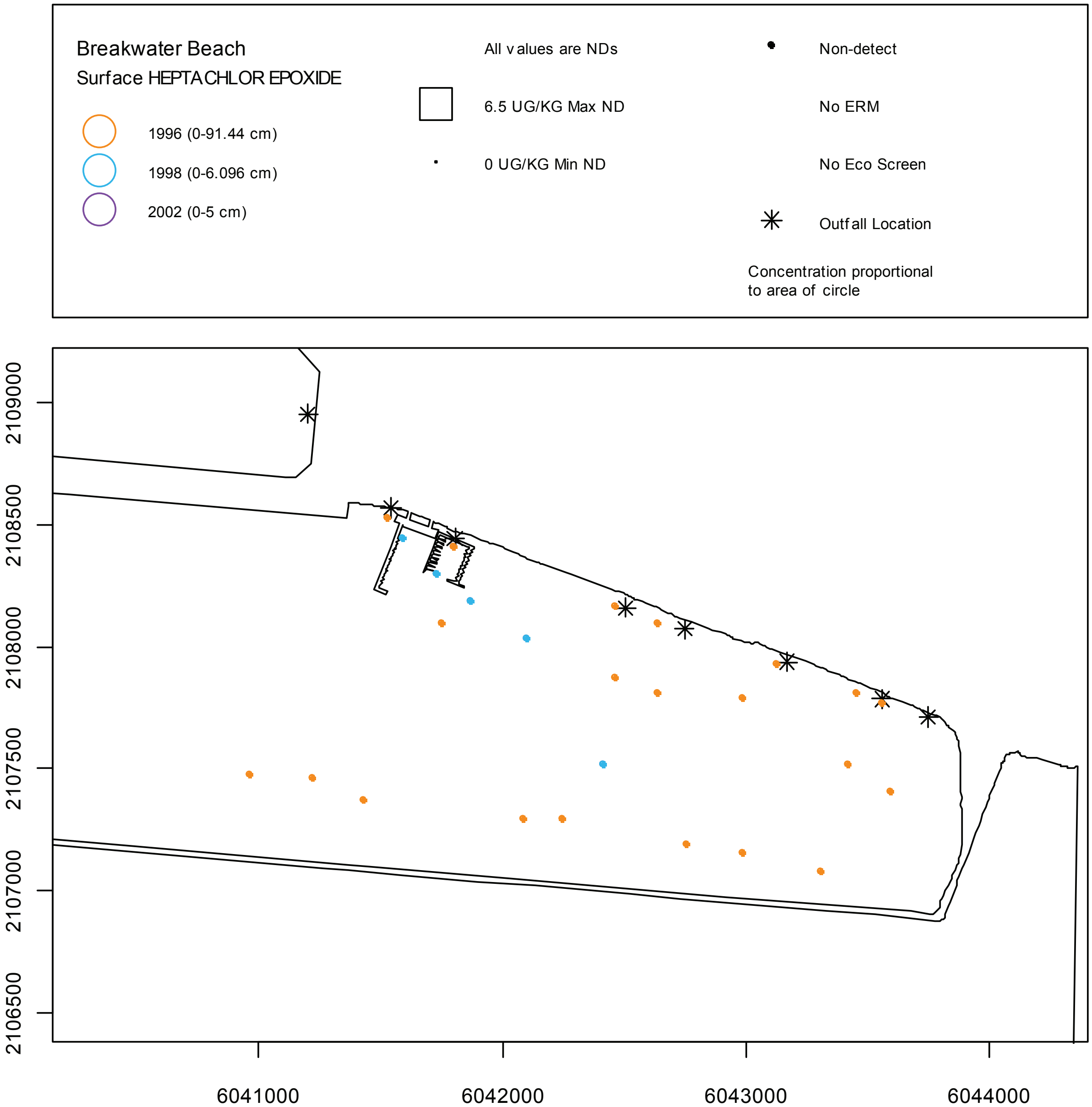


Figure A–343. Bubble Plots of Heptachlor Epoxide in Breakwater Beach Surface Sediment by Year.

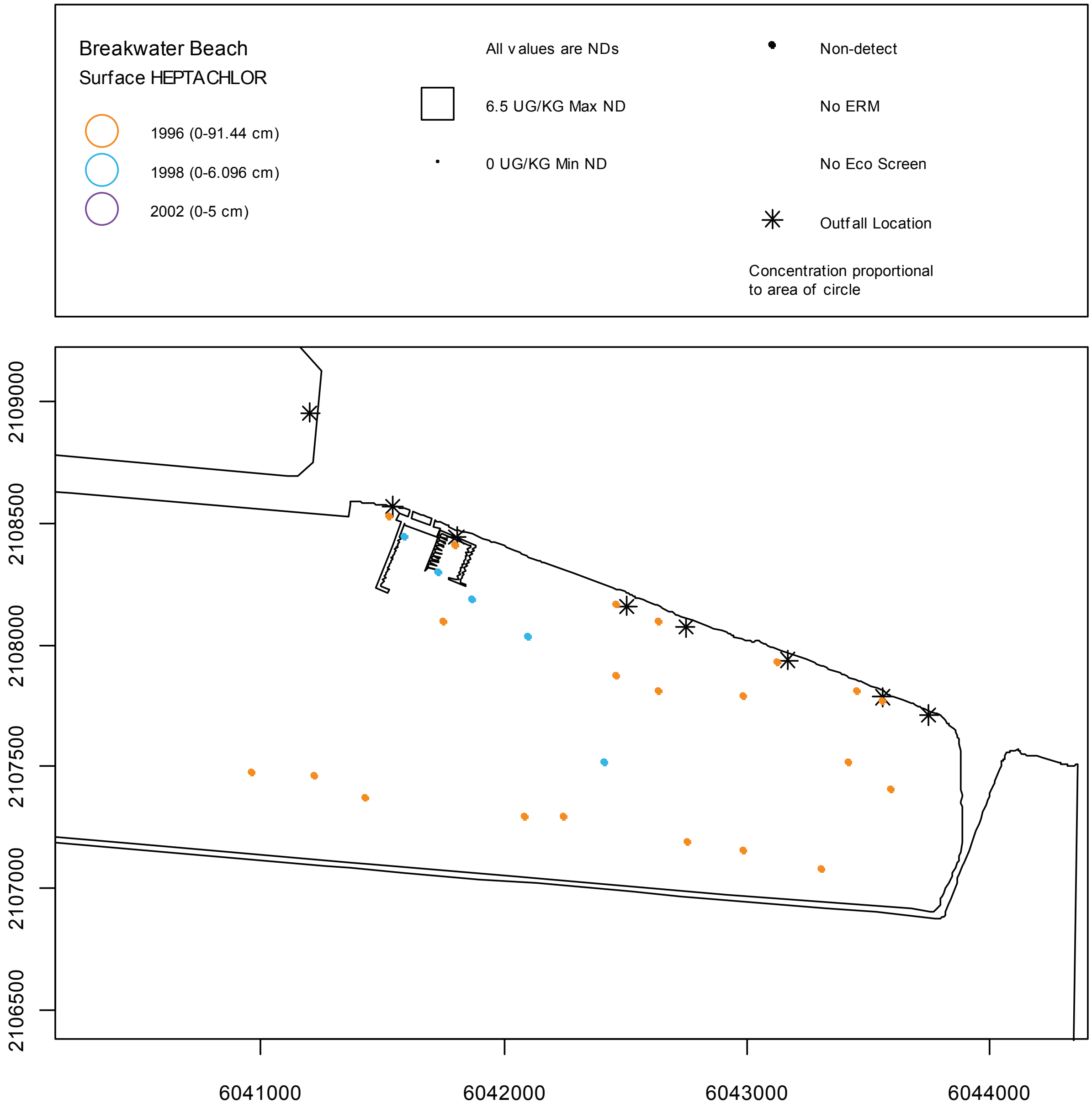


Figure A–344. Bubble Plots of Heptachlor in Breakwater Beach Surface Sediment by Year.

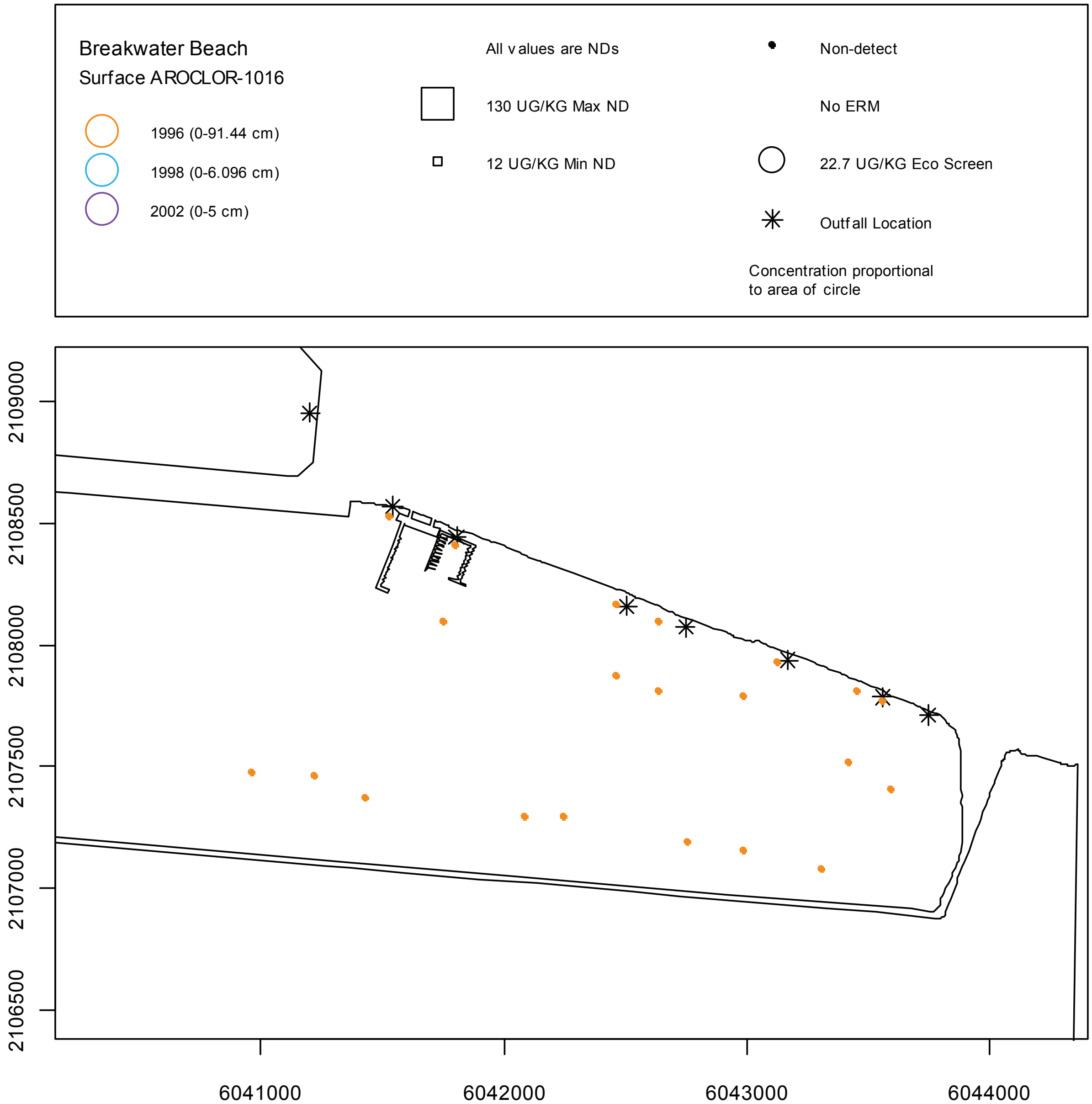


Figure A–345. Bubble Plots of Aroclor-1016 in Breakwater Beach Surface Sediment by Year.

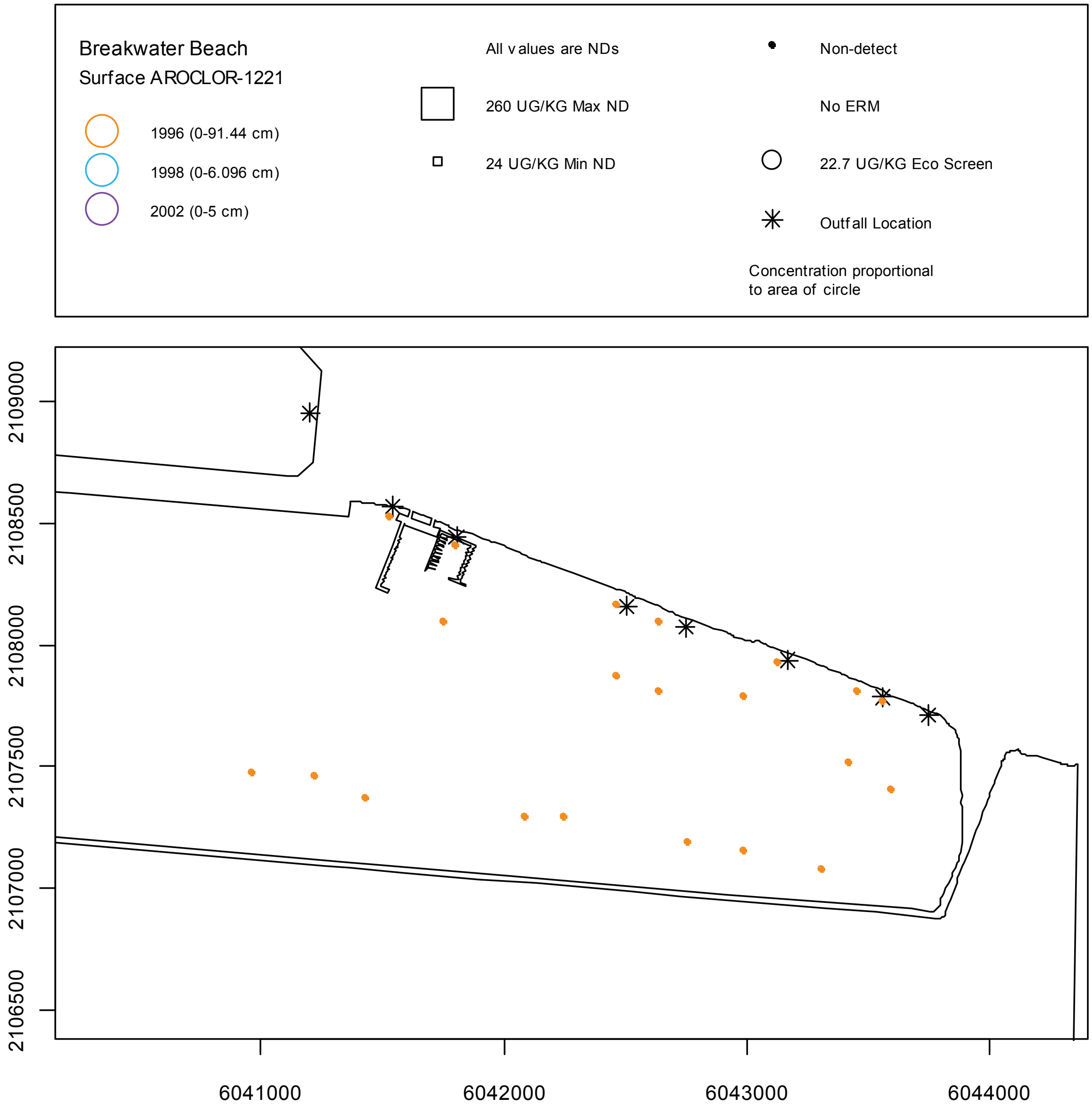


Figure A–346. Bubble Plots of Aroclor-1221 in Breakwater Beach Surface Sediment by Year.

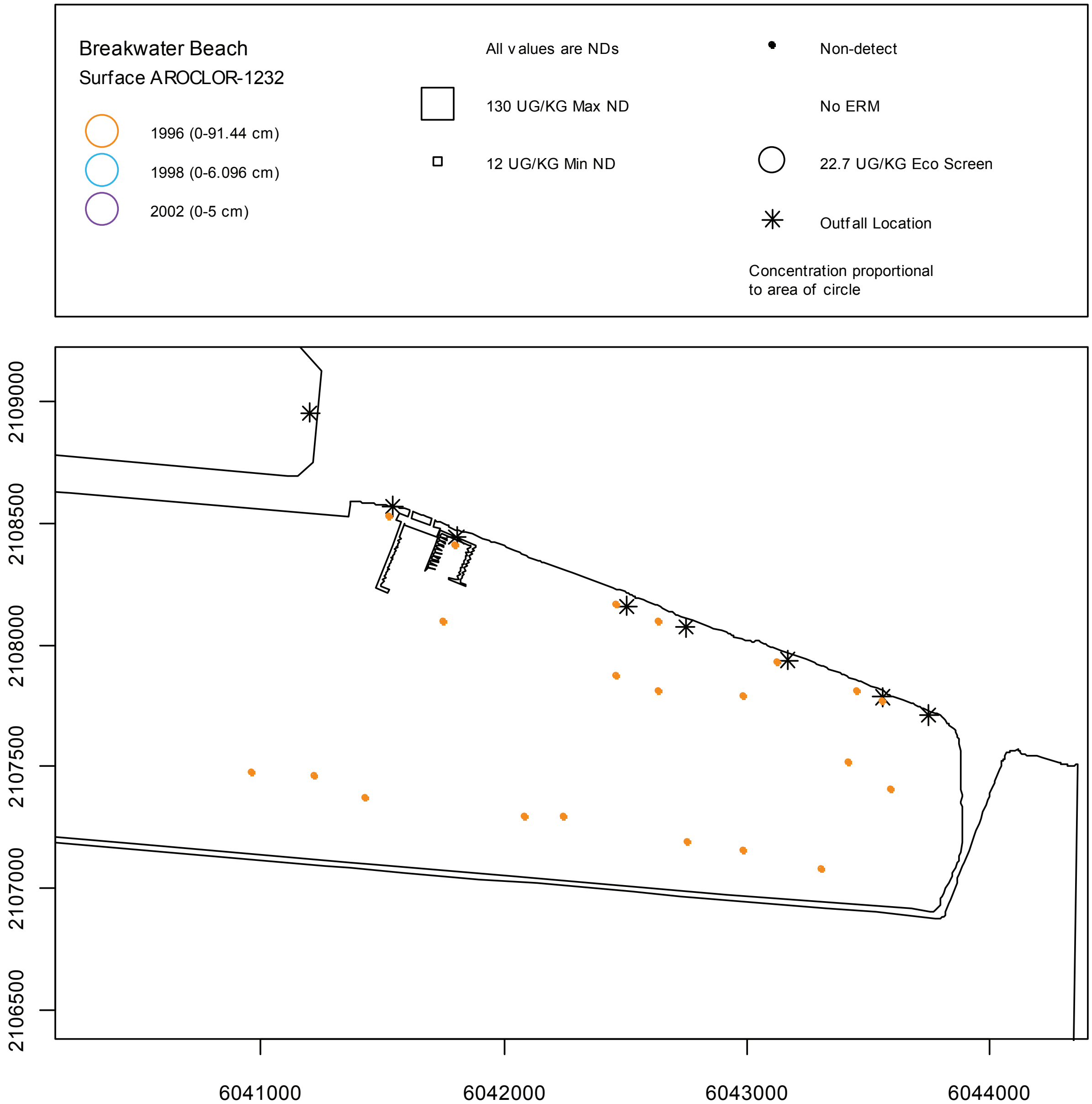


Figure A–347. Bubble Plots of Aroclor-1232 in Breakwater Beach Surface Sediment by Year.

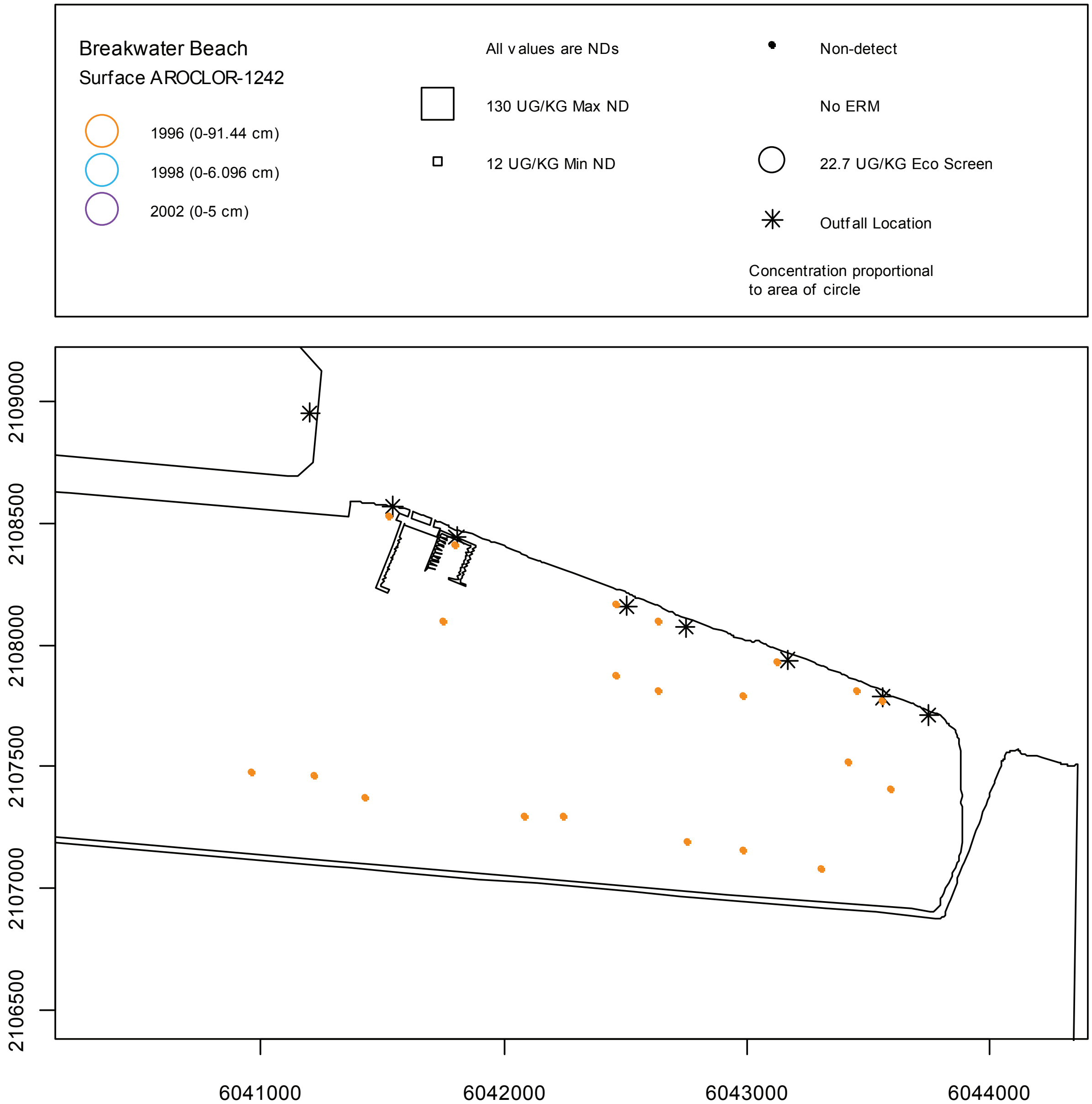


Figure A–348. Bubble Plots of Aroclor-1242 in Breakwater Beach Surface Sediment by Year.

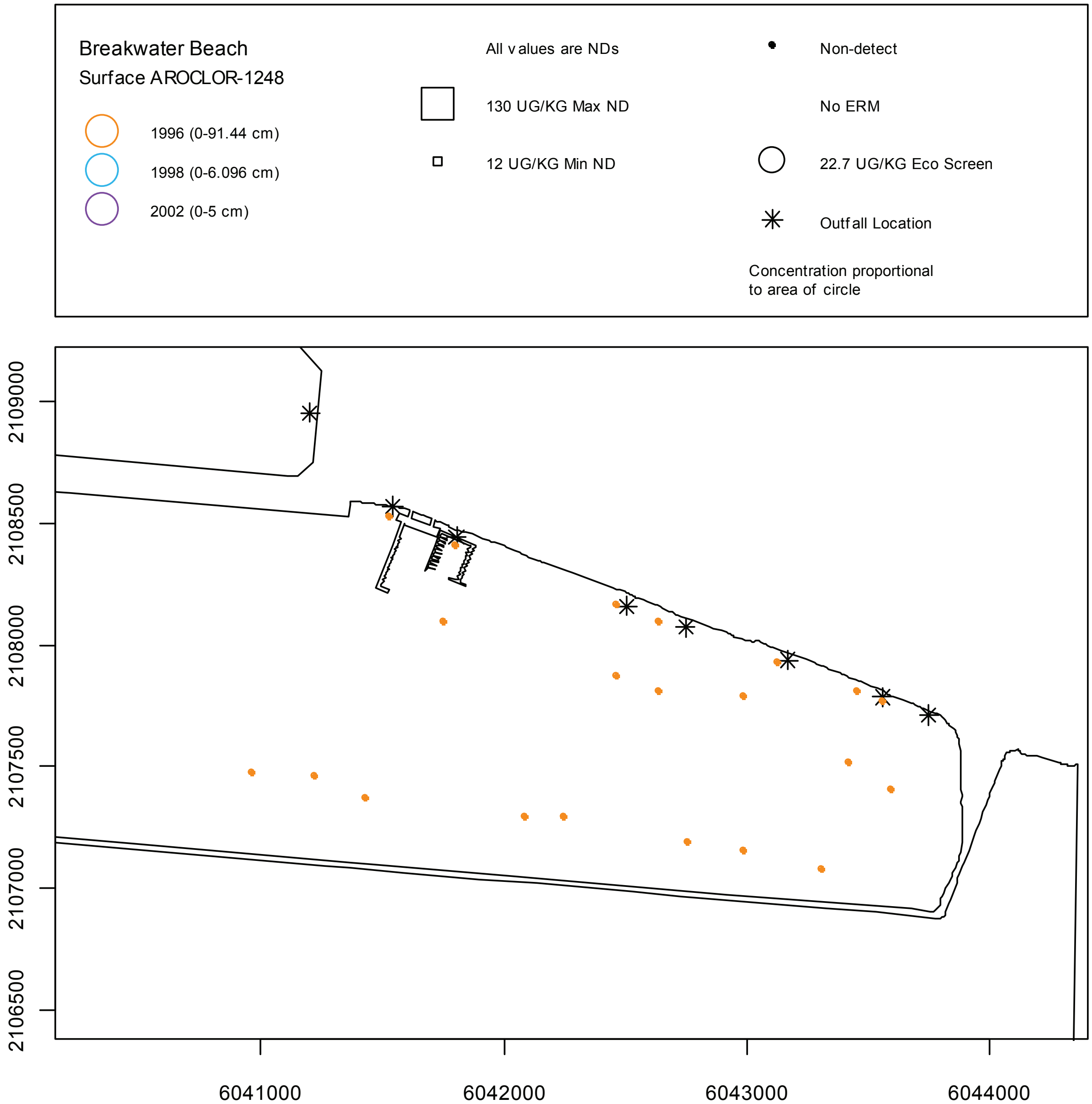


Figure A–349. Bubble Plots of Aroclor-1248 in Breakwater Beach Surface Sediment by Year.

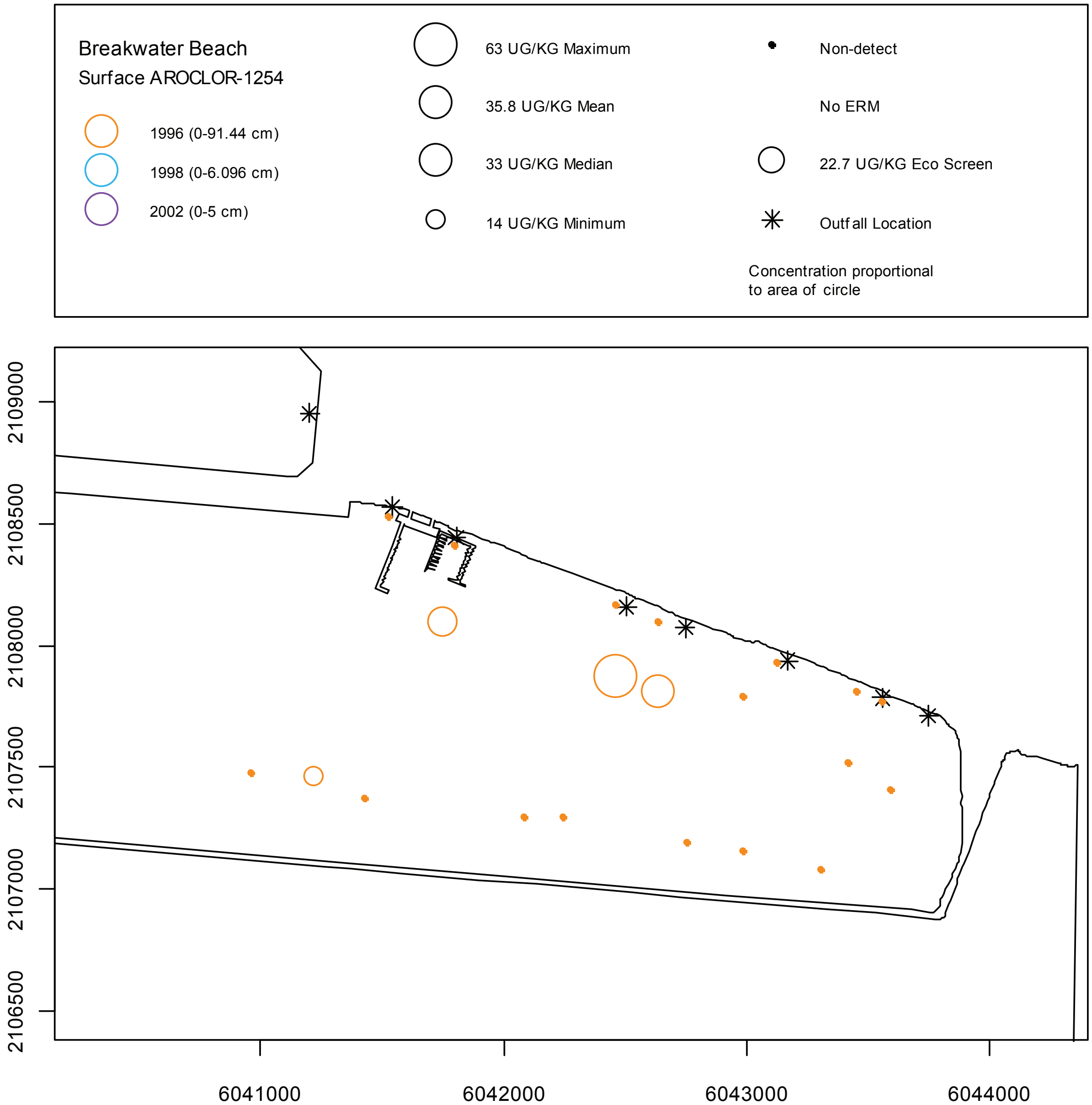


Figure A–350. Bubble Plots of Aroclor-1254 in Breakwater Beach Surface Sediment by Year.

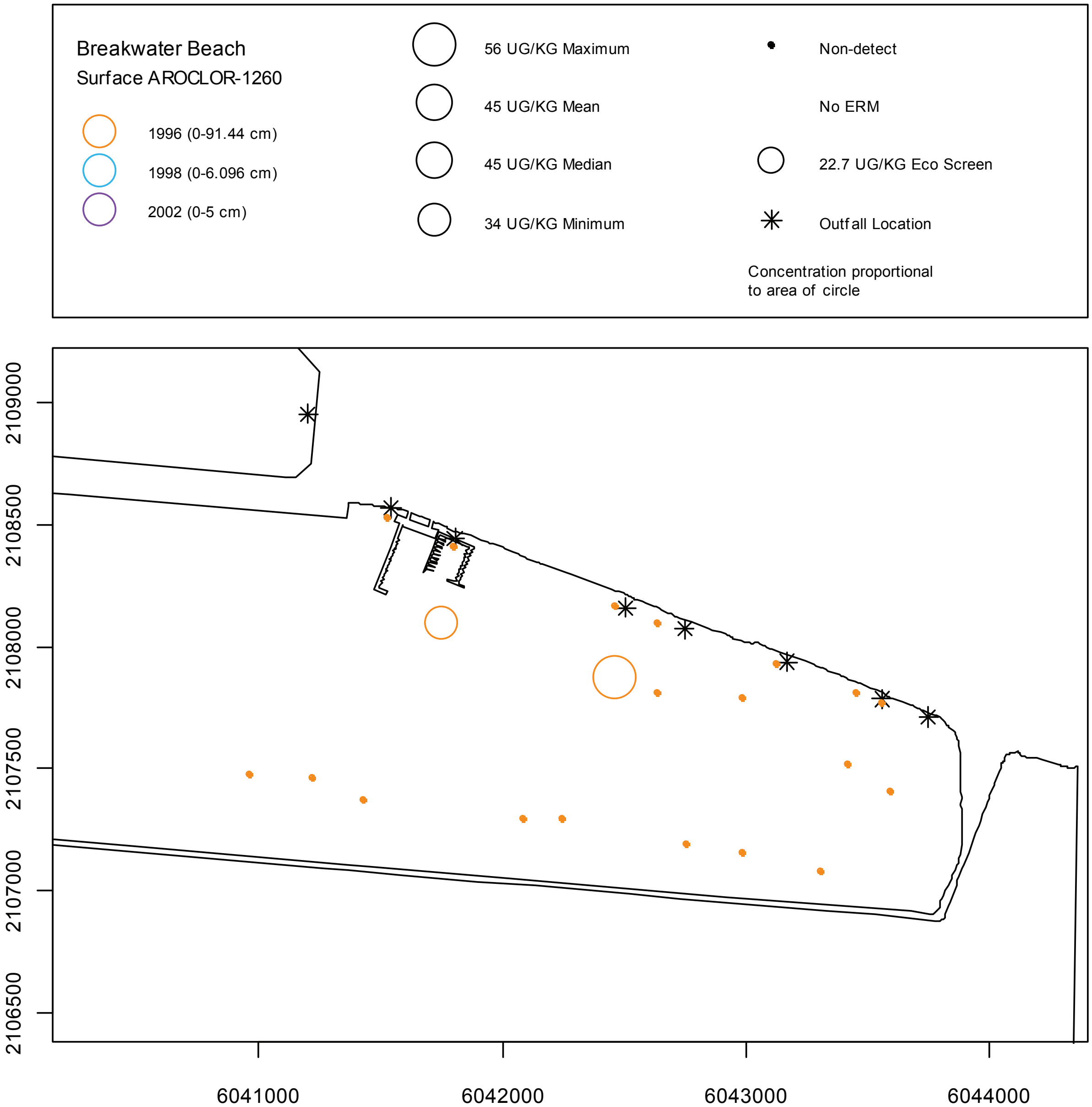


Figure A–351. Bubble Plots of Aroclor-1260 in Breakwater Beach Surface Sediment by Year.

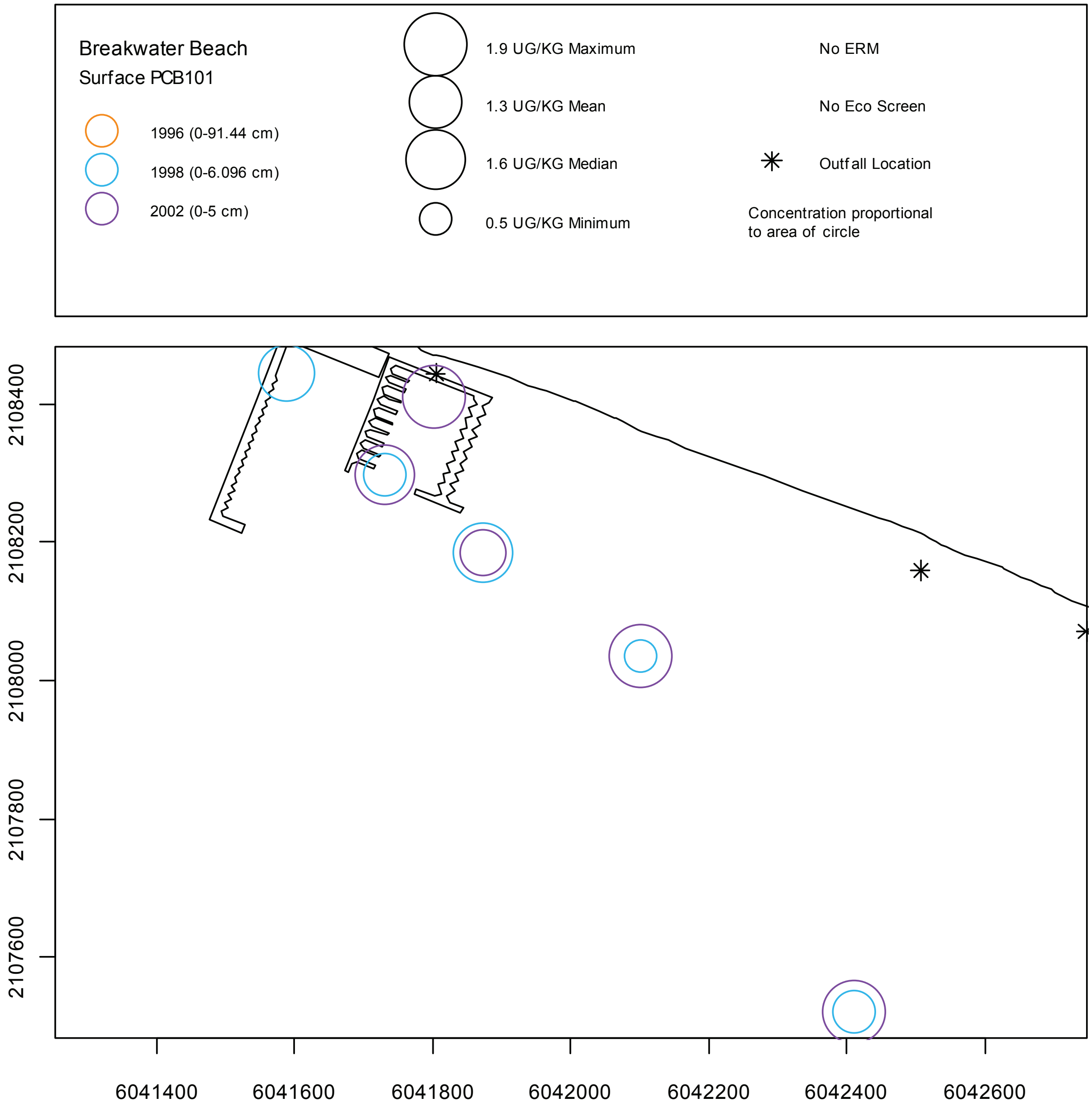


Figure A–352. Bubble Plots of PCB101 in Breakwater Beach Surface Sediment by Year.

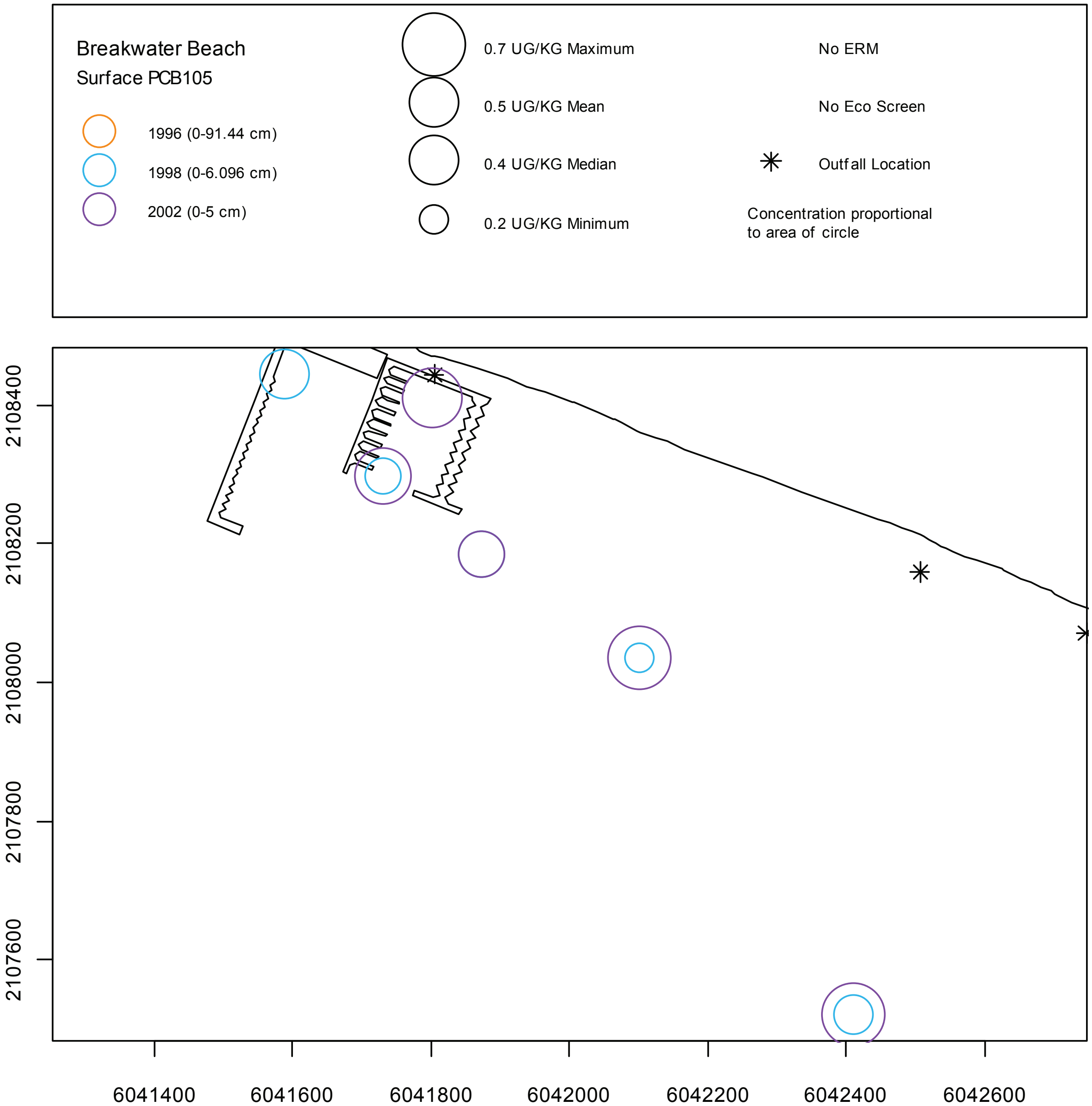


Figure A–353. Bubble Plots of PCB105 in Breakwater Beach Surface Sediment by Year.

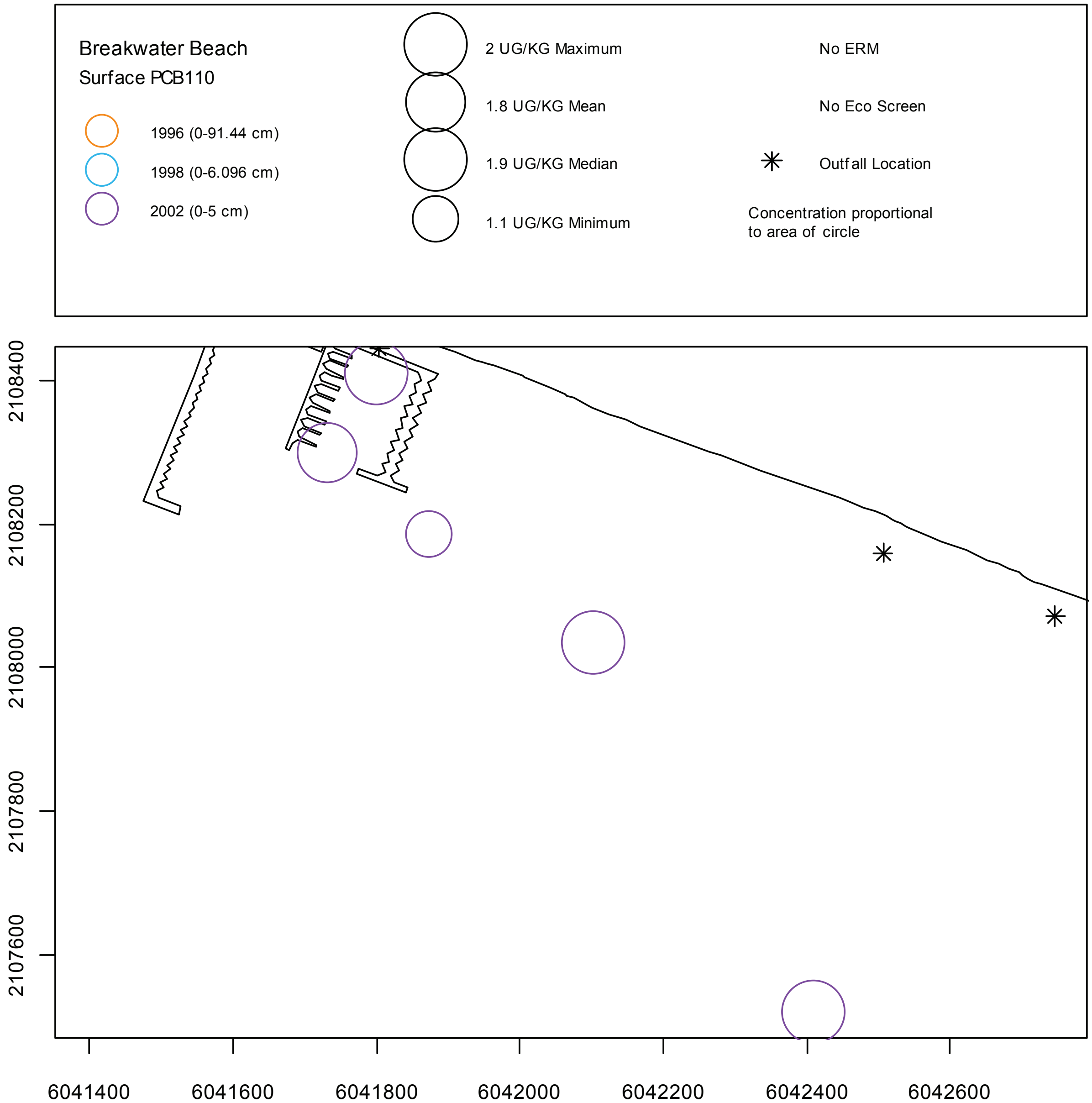


Figure A–354. Bubble Plots of PCB110 in Breakwater Beach Surface Sediment by Year.

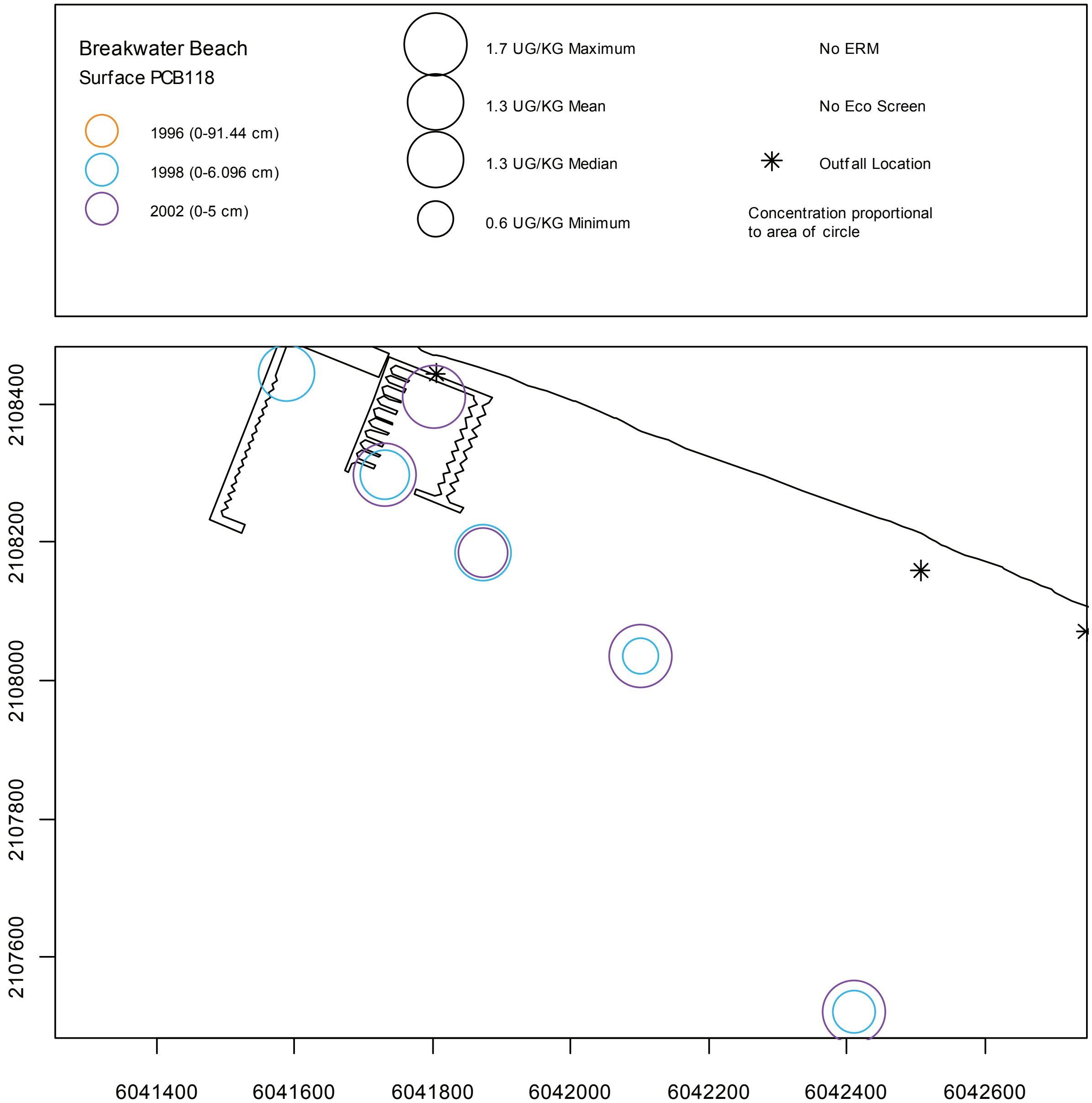


Figure A–355. Bubble Plots of PCB118 in Breakwater Beach Surface Sediment by Year.

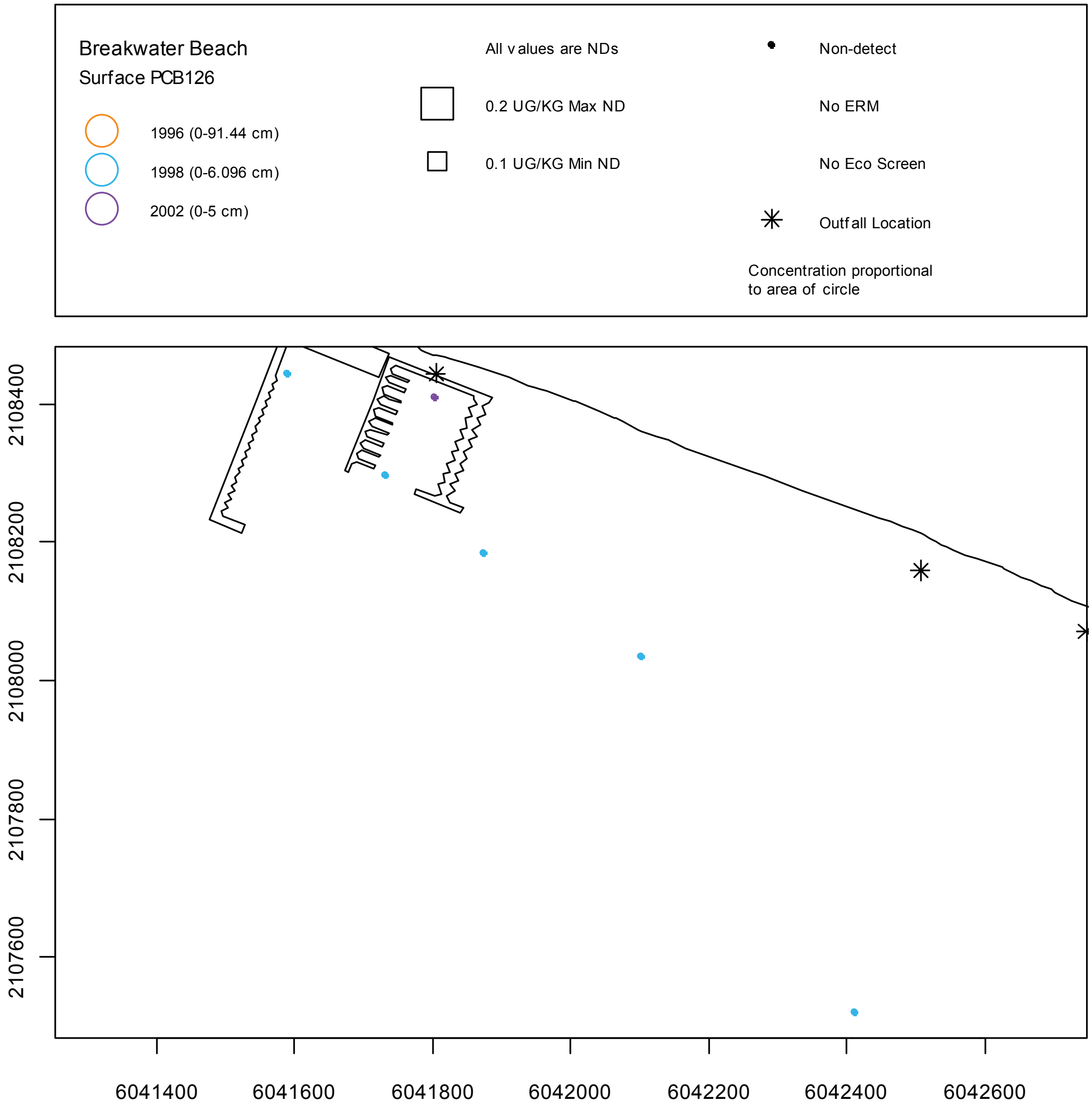


Figure A–356. Bubble Plots of PCB126 in Breakwater Beach Surface Sediment by Year.

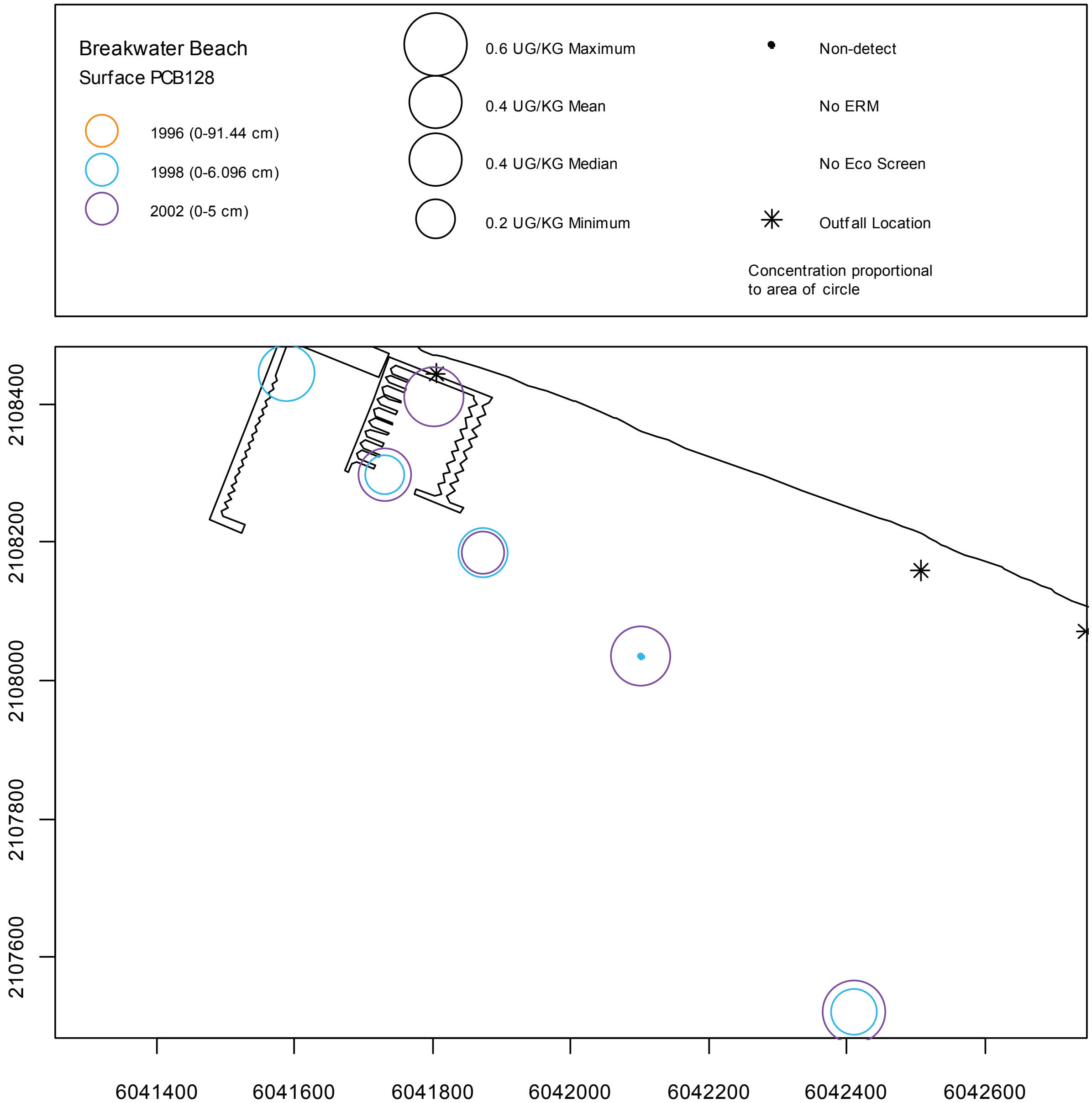


Figure A–357. Bubble Plots of PCB128 in Breakwater Beach Surface Sediment by Year.

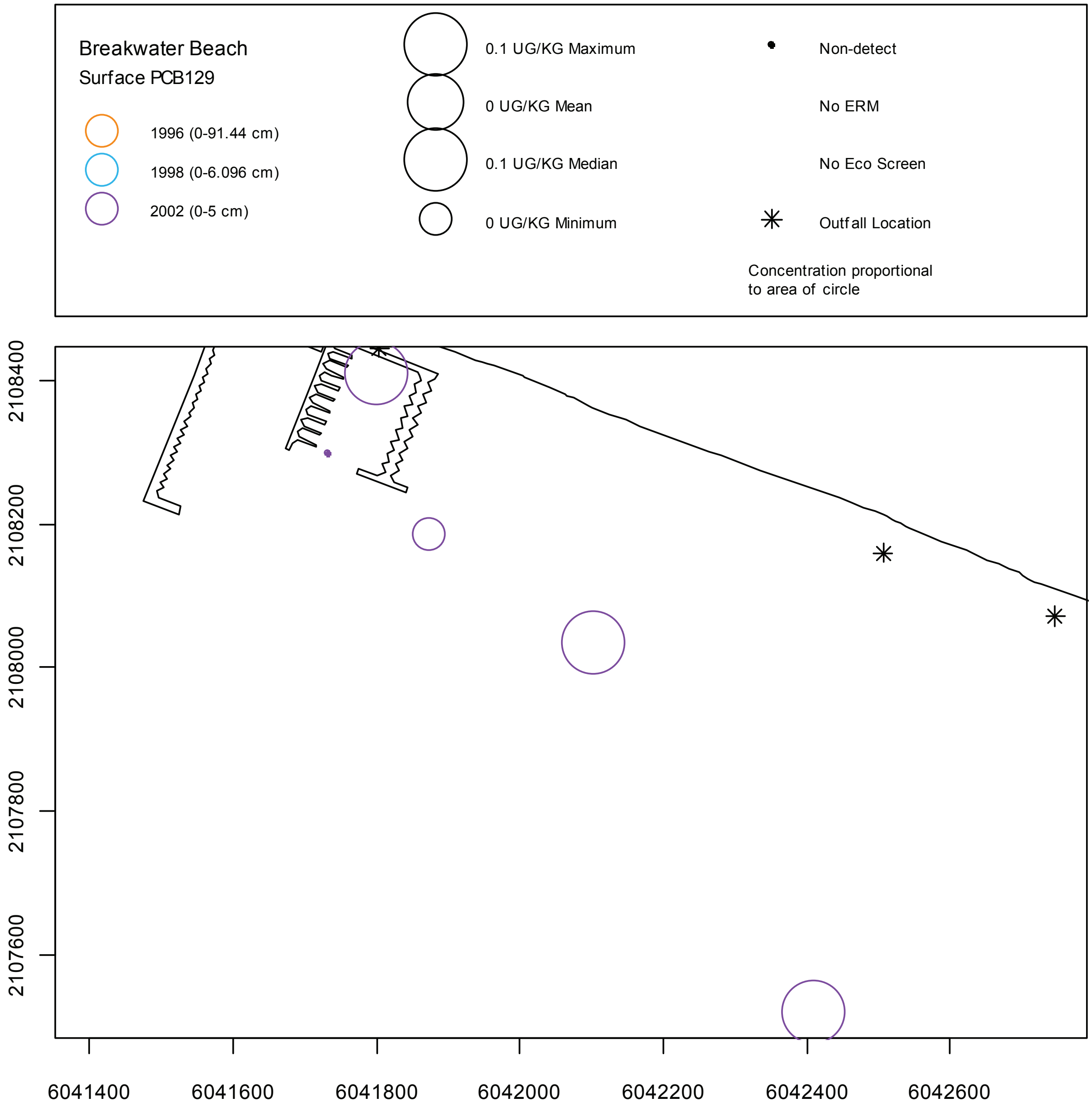


Figure A–358. Bubble Plots of PCB129 in Breakwater Beach Surface Sediment by Year.

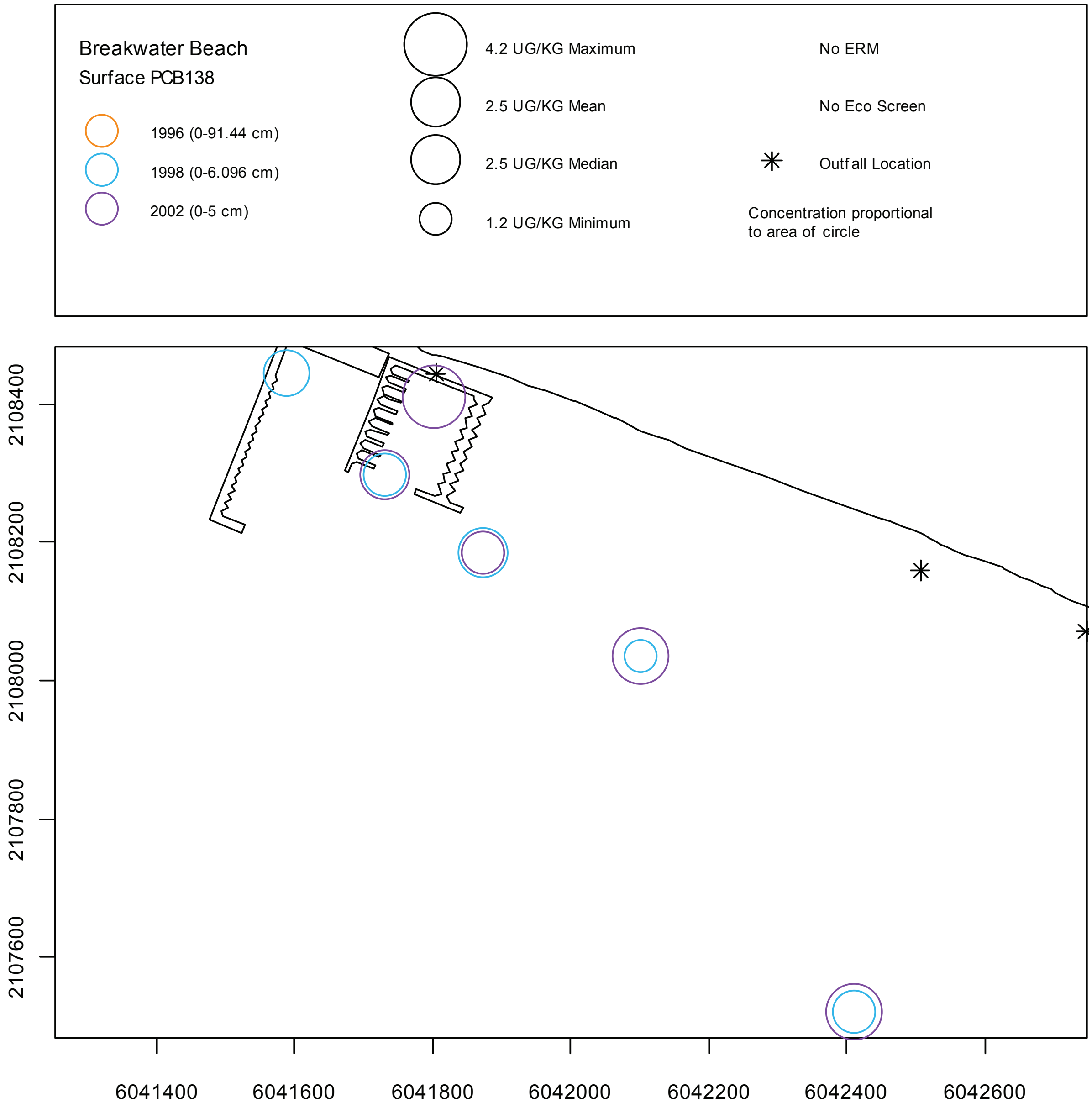


Figure A–359. Bubble Plots of PCB138 in Breakwater Beach Surface Sediment by Year.

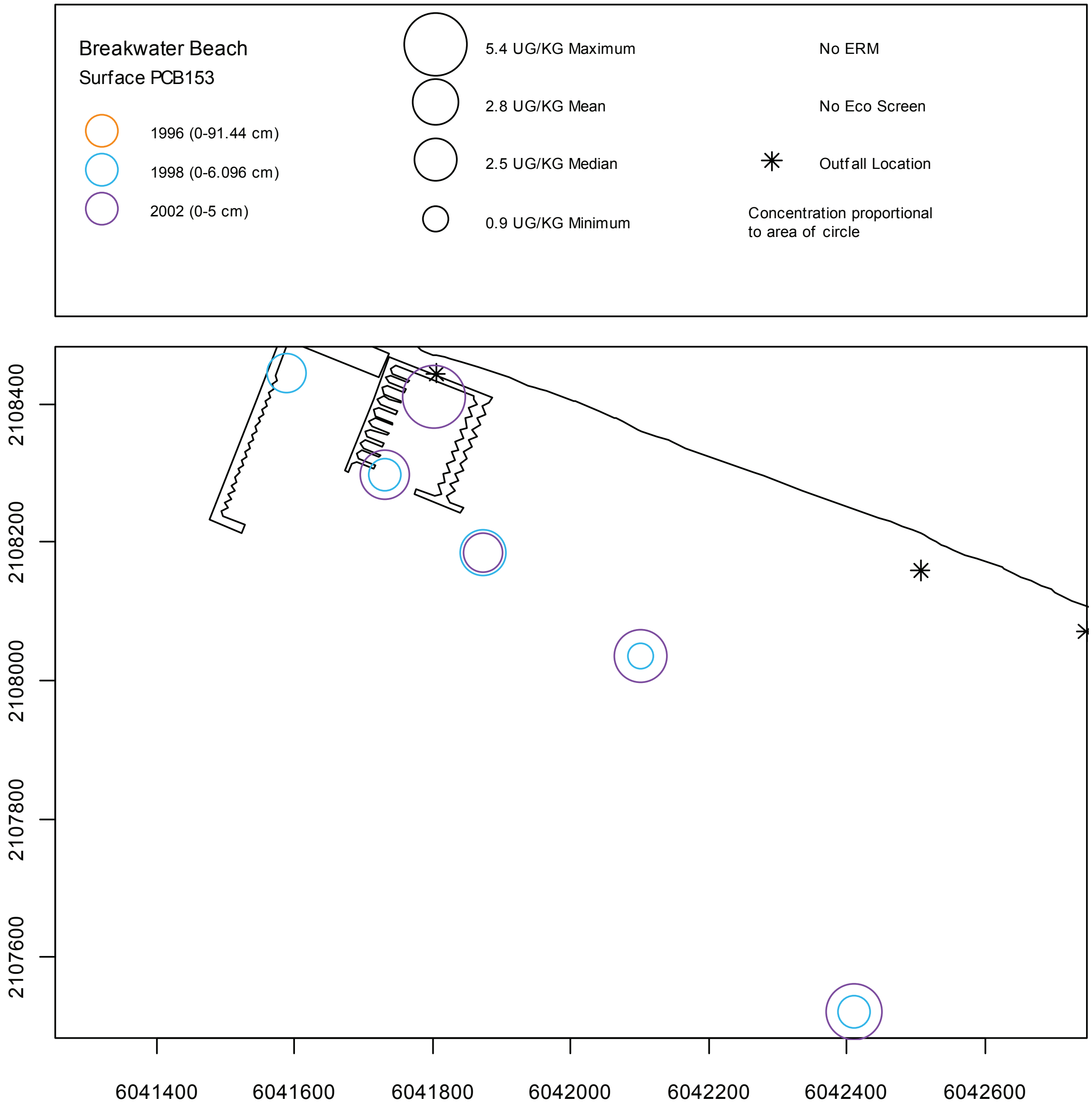


Figure A–360. Bubble Plots of PCB153 in Breakwater Beach Surface Sediment by Year.

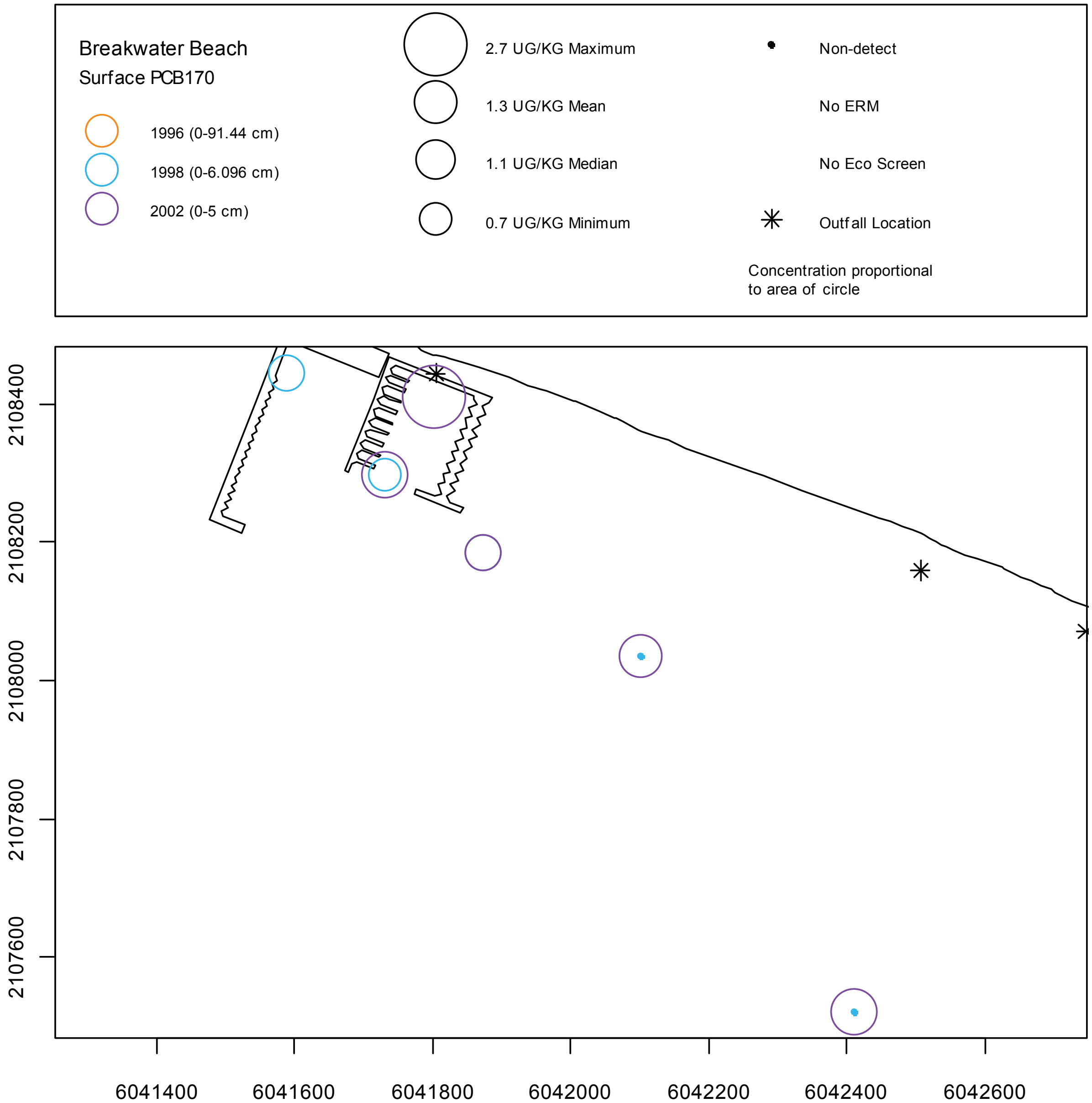


Figure A–361. Bubble Plots of PCB170 in Breakwater Beach Surface Sediment by Year.

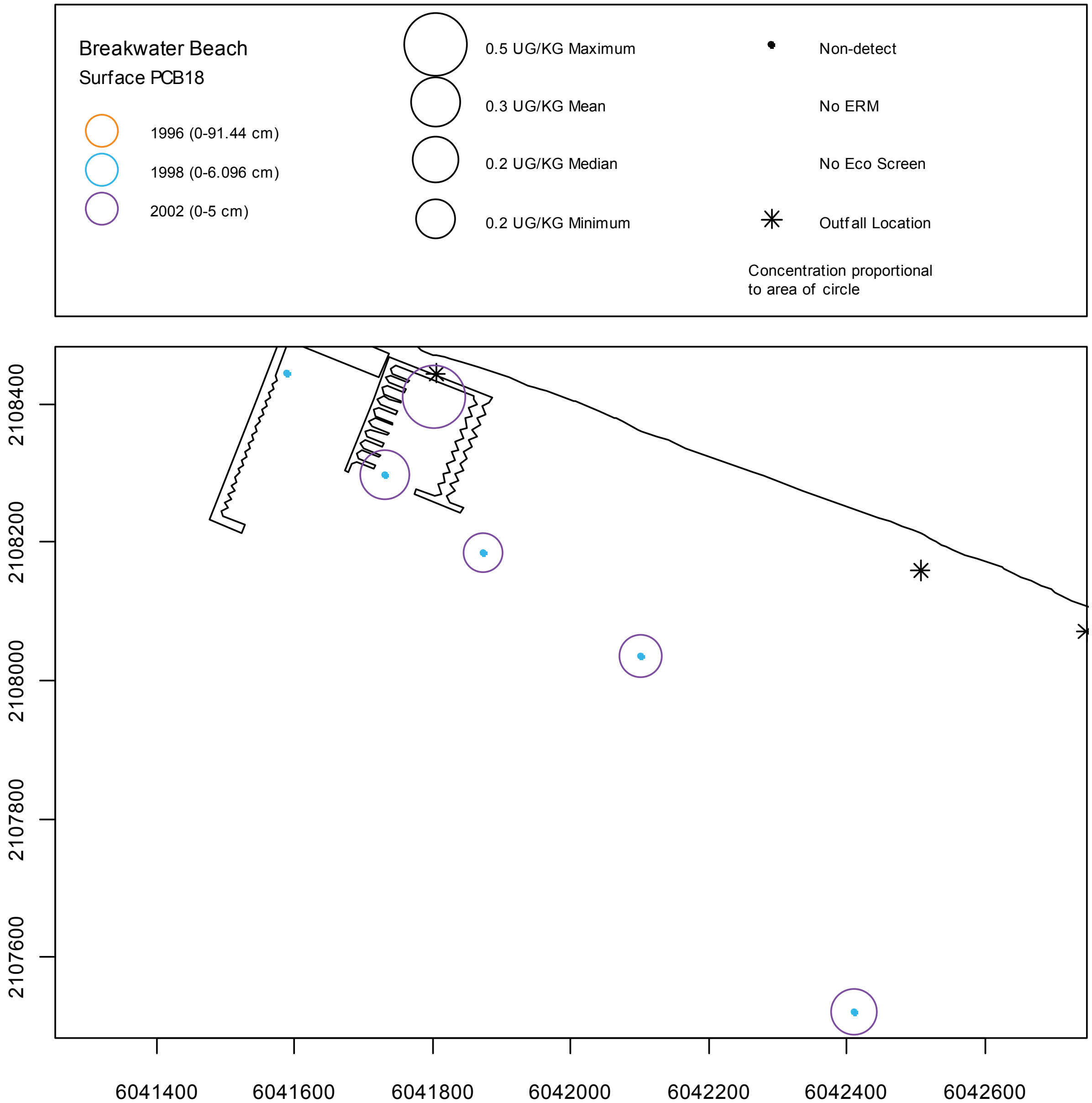


Figure A–362. Bubble Plots of PCB18 in Breakwater Beach Surface Sediment by Year.

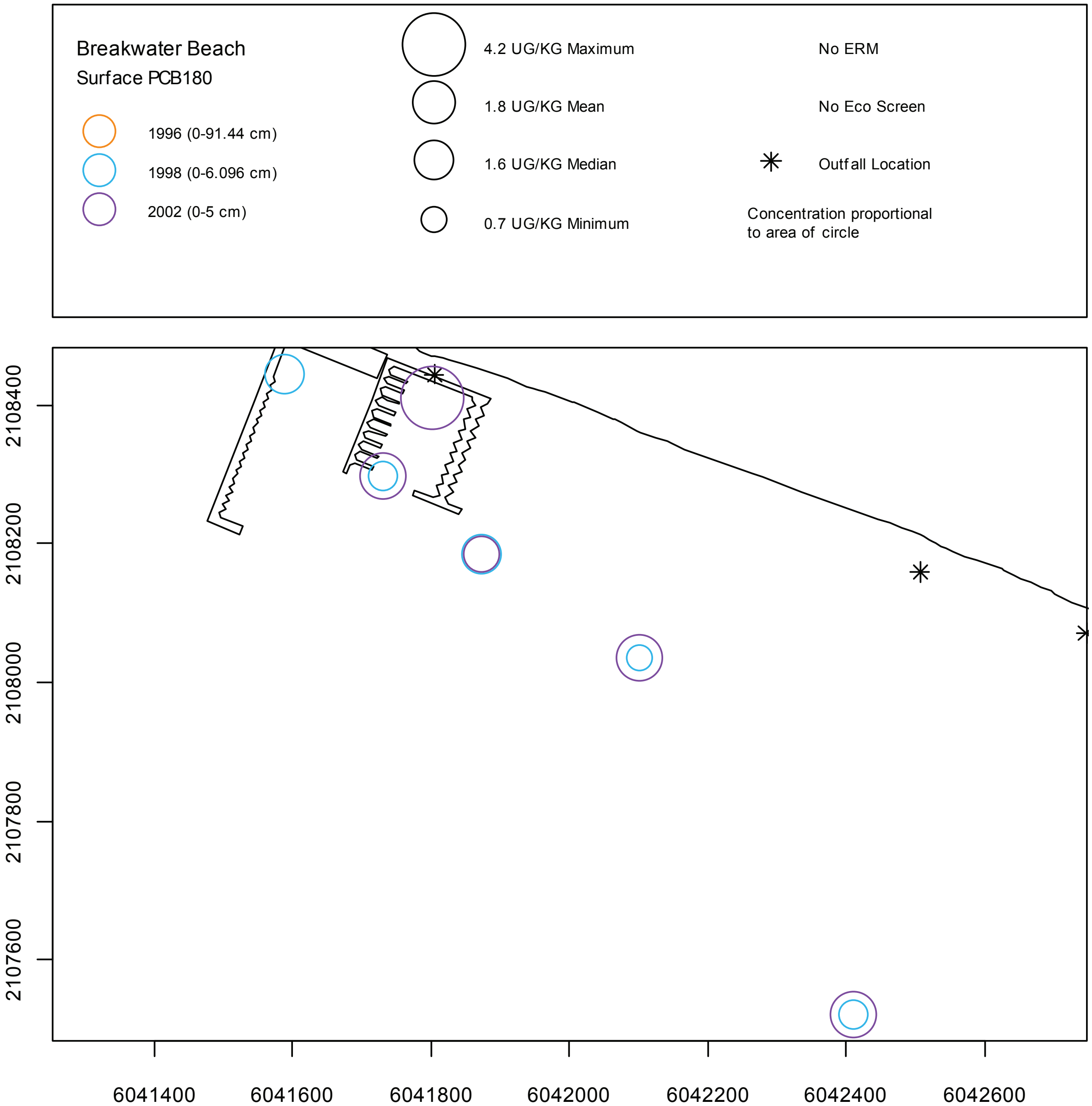


Figure A–363. Bubble Plots of PCB180 in Breakwater Beach Surface Sediment by Year.

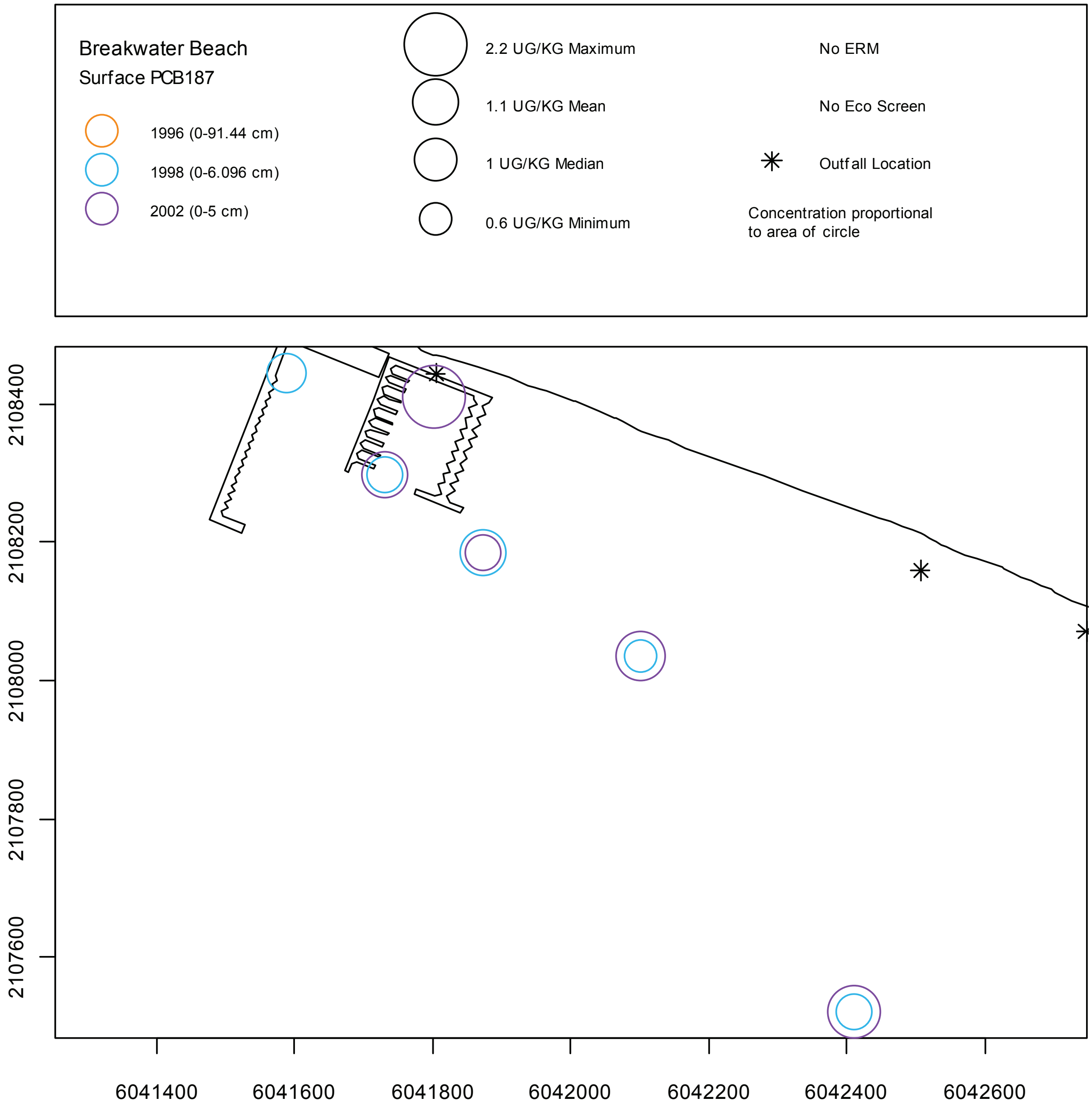


Figure A–364. Bubble Plots of PCB187 in Breakwater Beach Surface Sediment by Year.

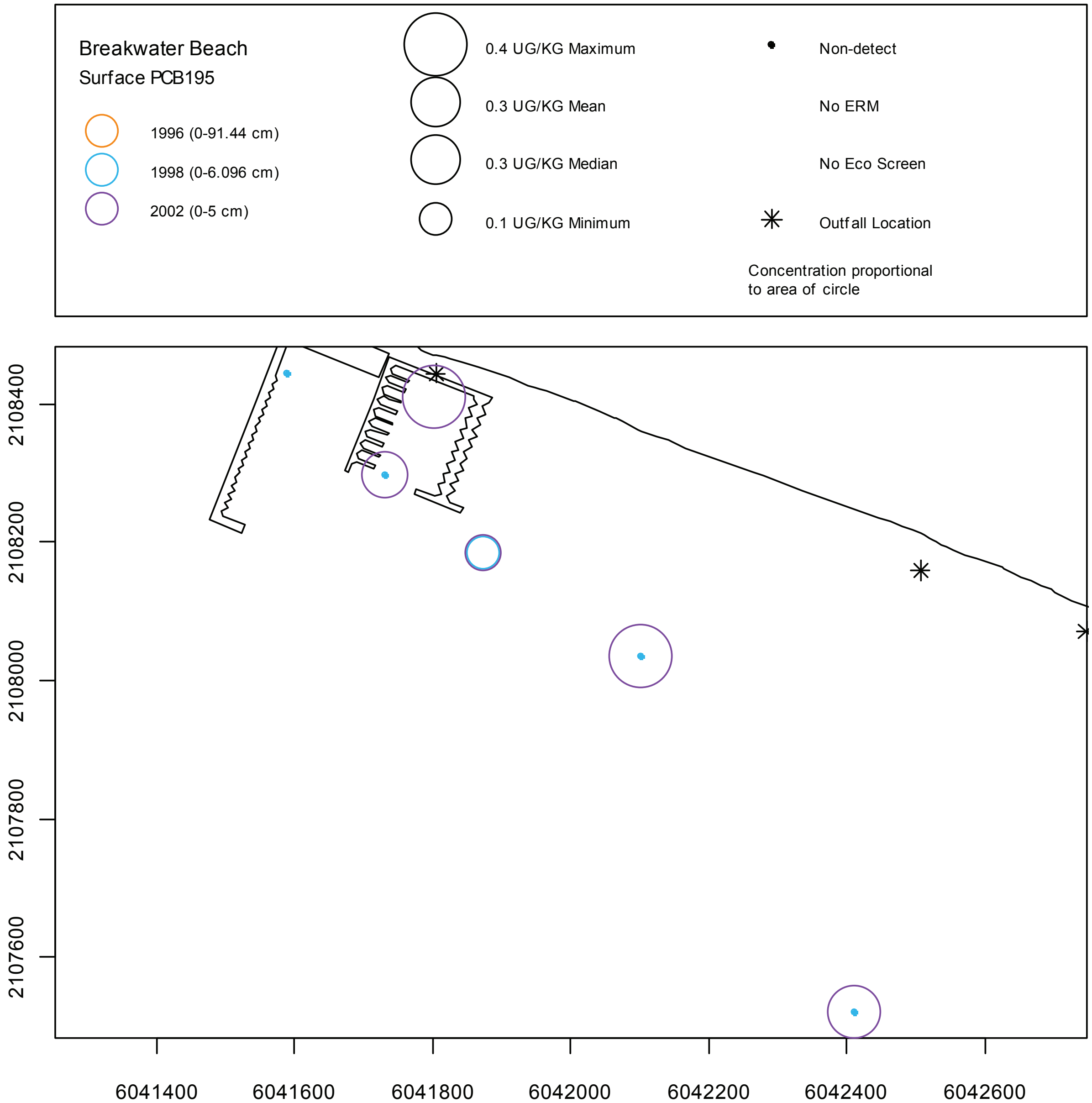


Figure A–365. Bubble Plots of PCB195 in Breakwater Beach Surface Sediment by Year.

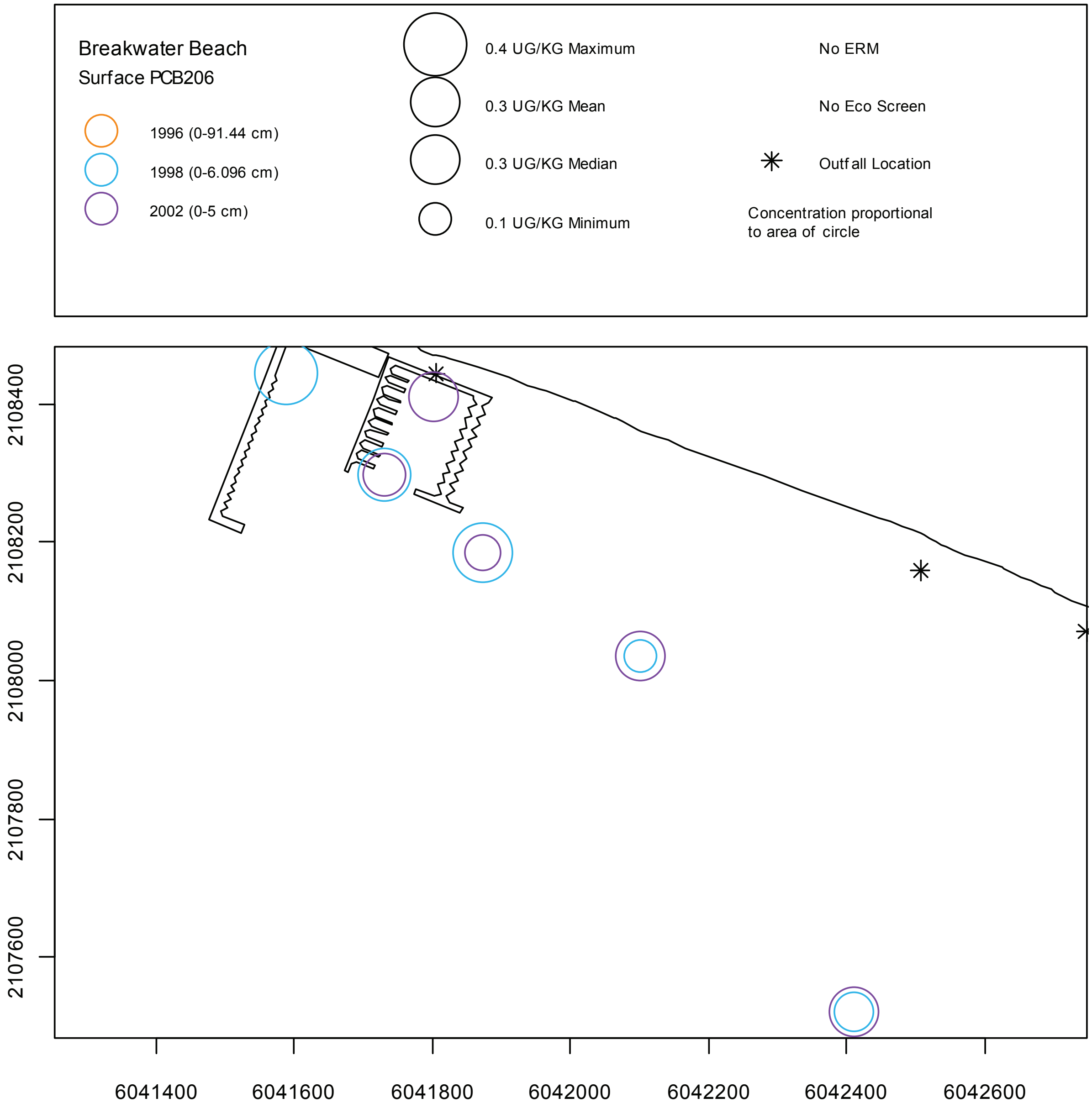


Figure A–366. Bubble Plots of PCB206 in Breakwater Beach Surface Sediment by Year.

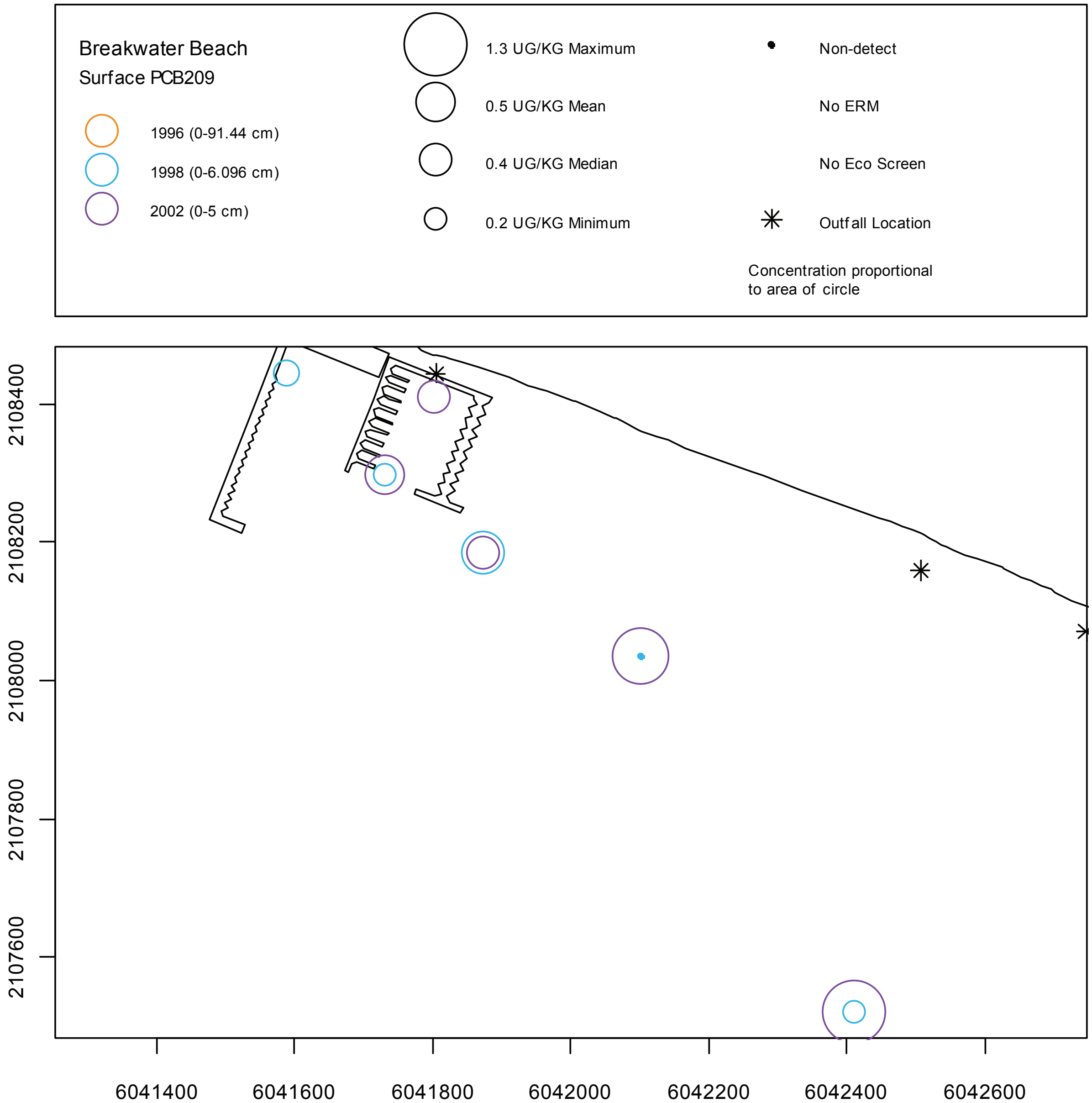


Figure A–367. Bubble Plots of PCB209 in Breakwater Beach Surface Sediment by Year.

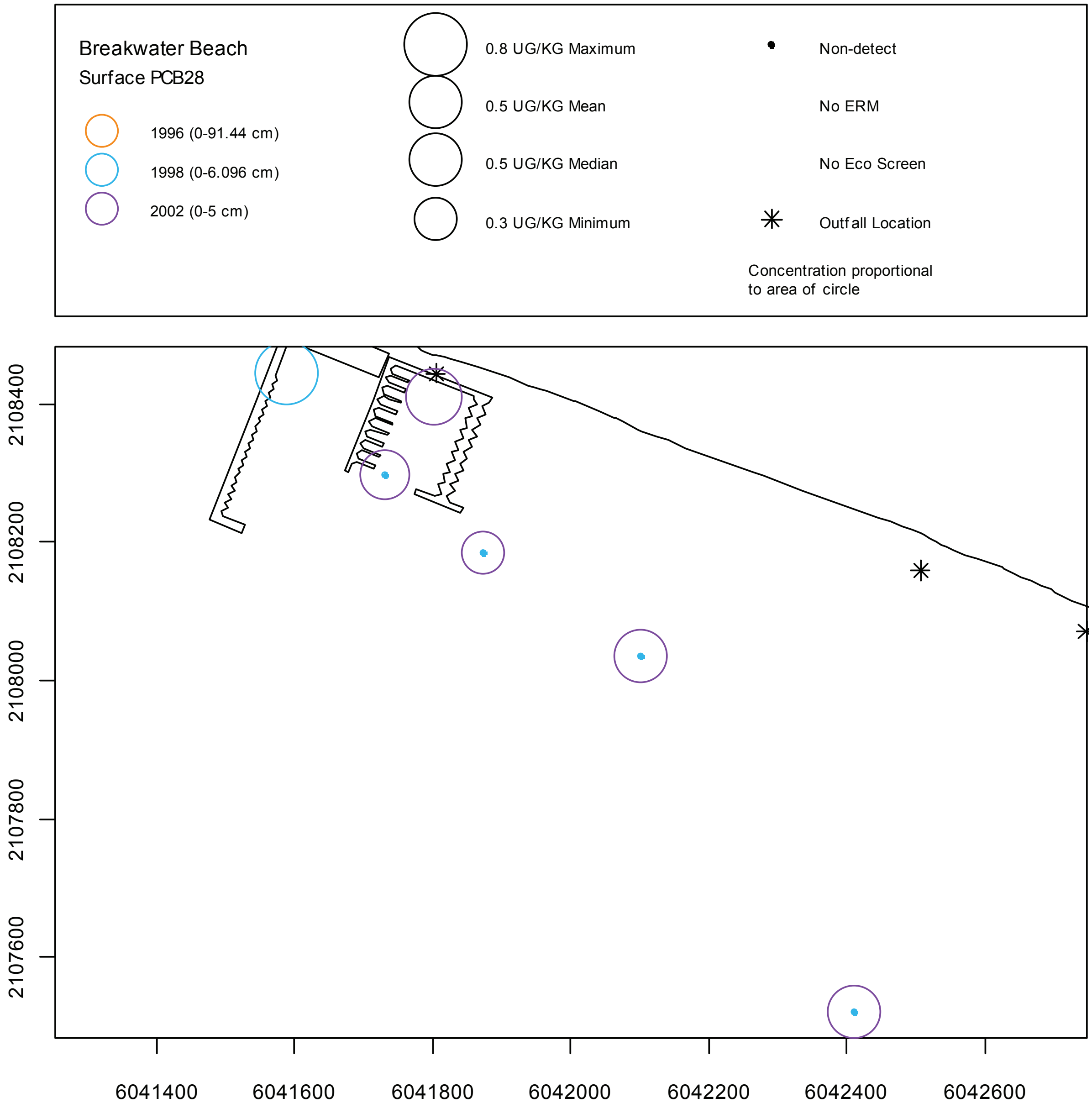


Figure A–368. Bubble Plots of PCB28 in Breakwater Beach Surface Sediment by Year.

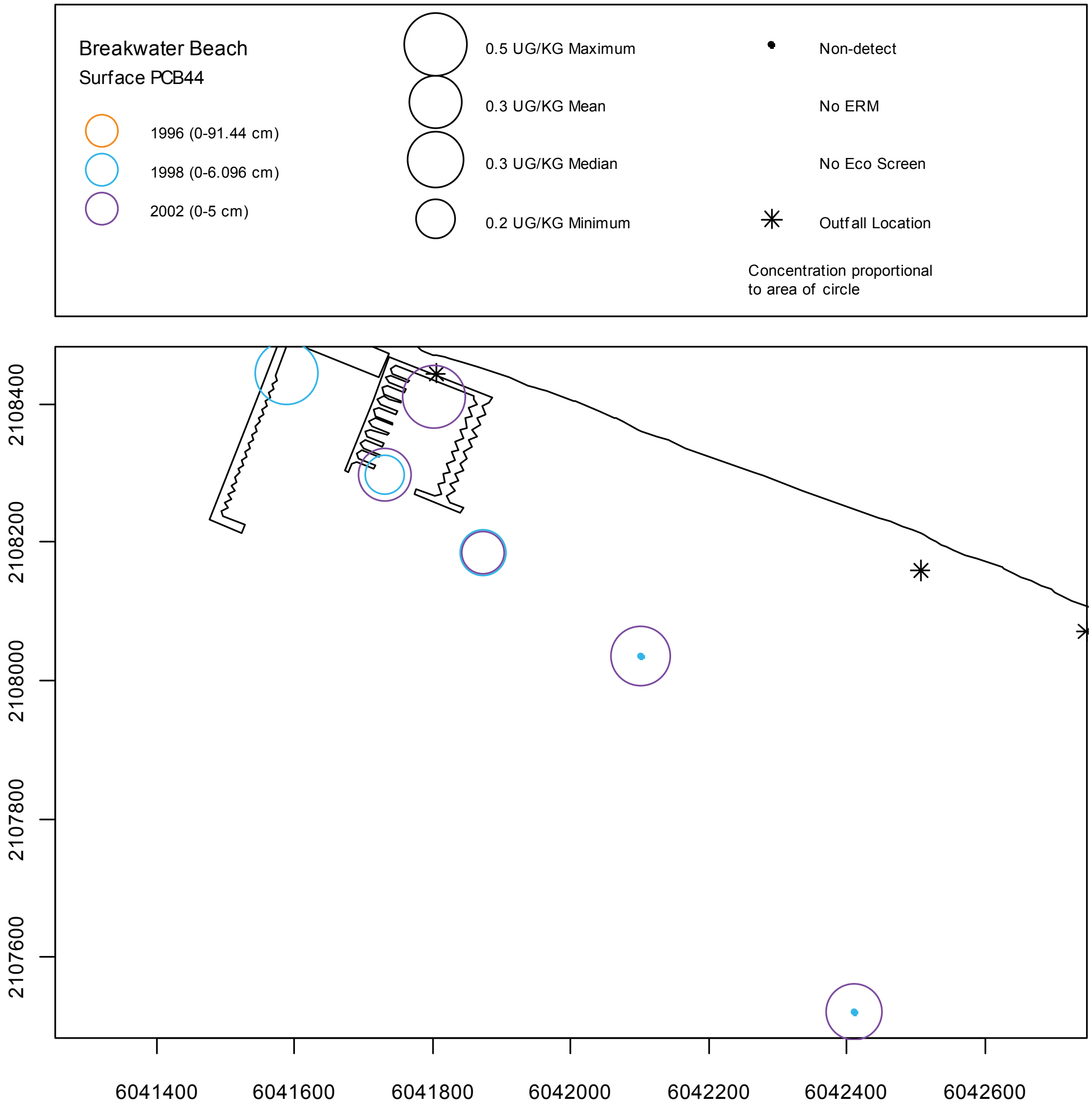


Figure A–369. Bubble Plots of PCB44 in Breakwater Beach Surface Sediment by Year.

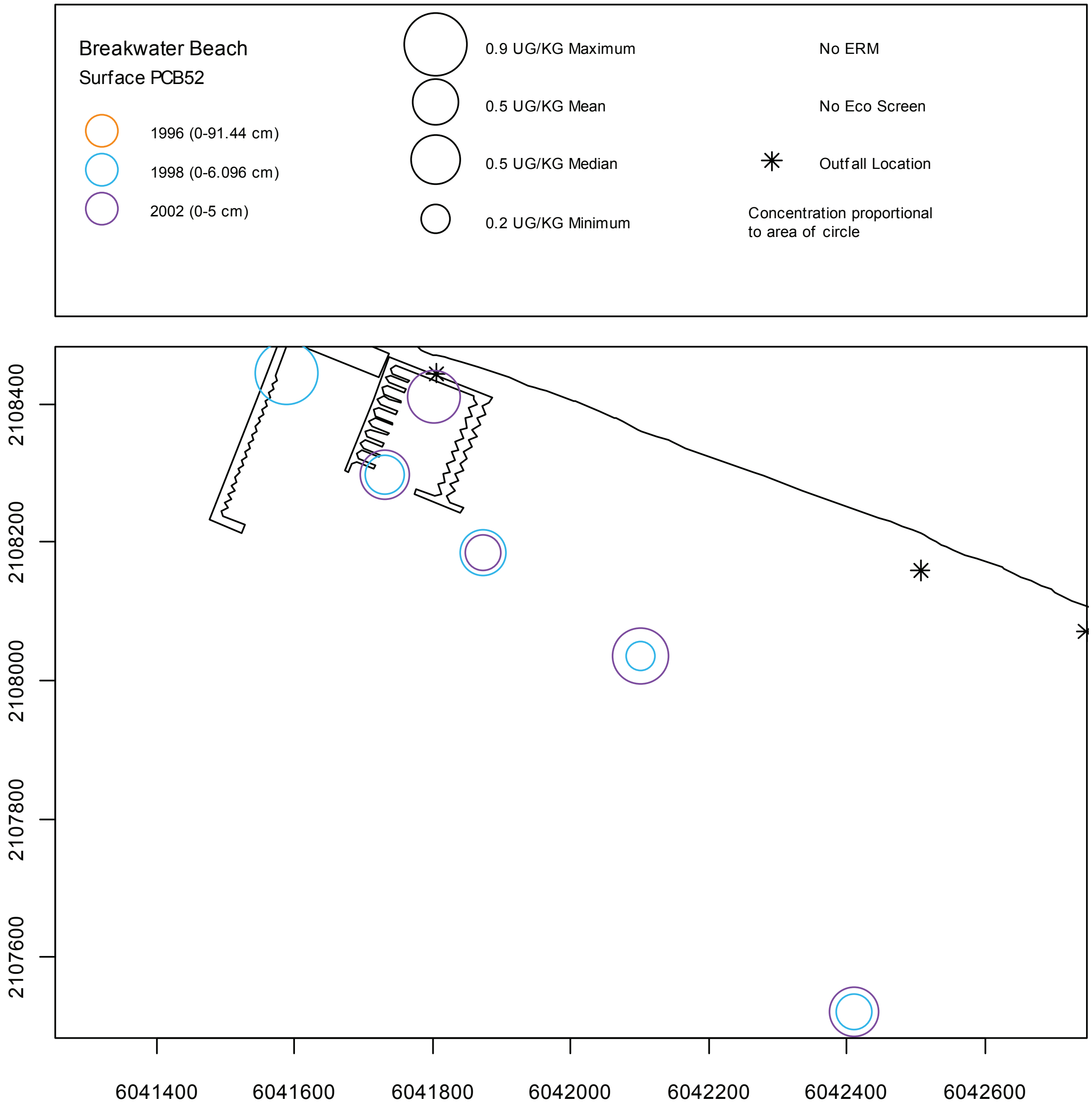


Figure A–370. Bubble Plots of PCB52 in Breakwater Beach Surface Sediment by Year.

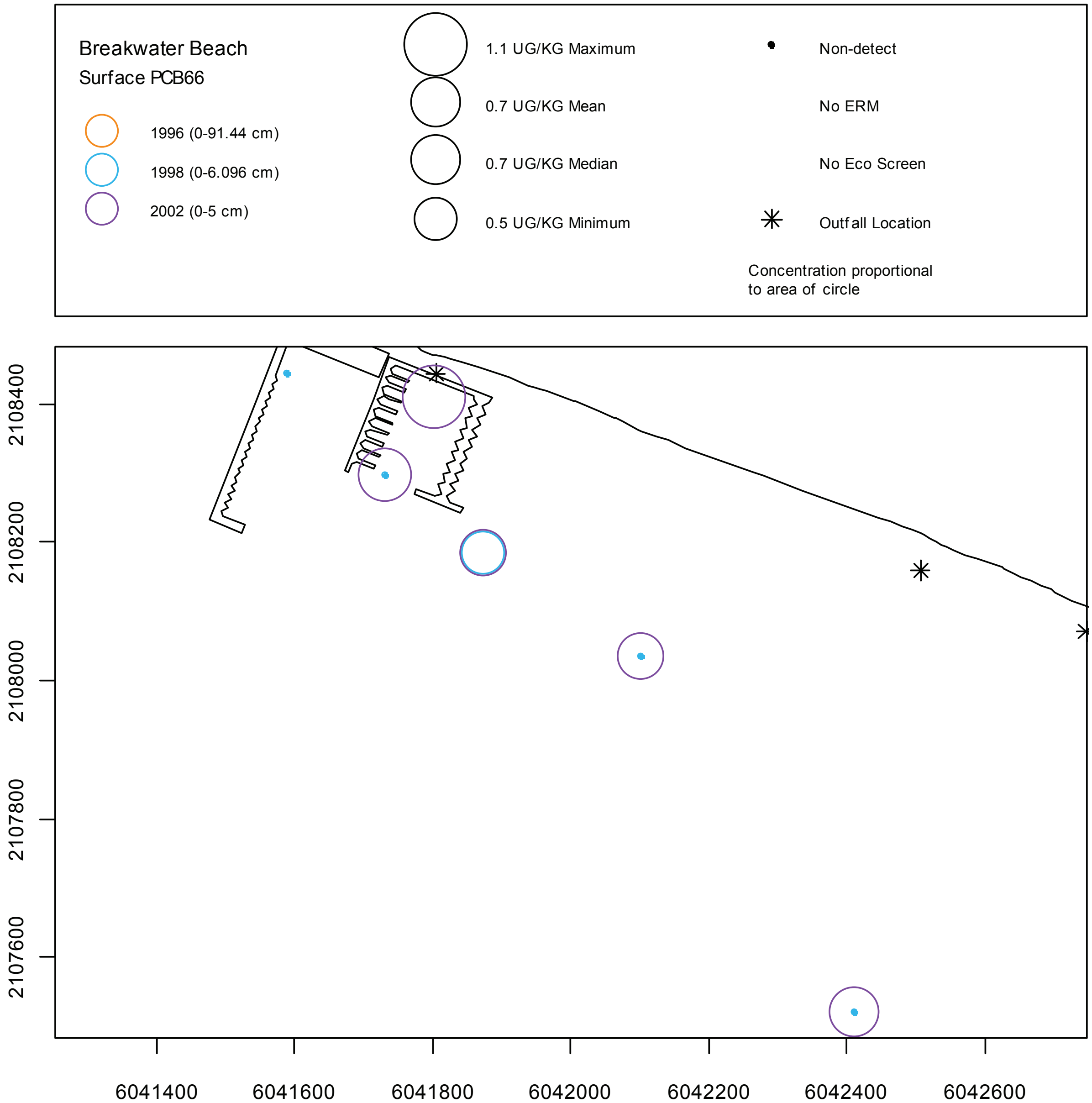


Figure A–371. Bubble Plots of PCB66 in Breakwater Beach Surface Sediment by Year.

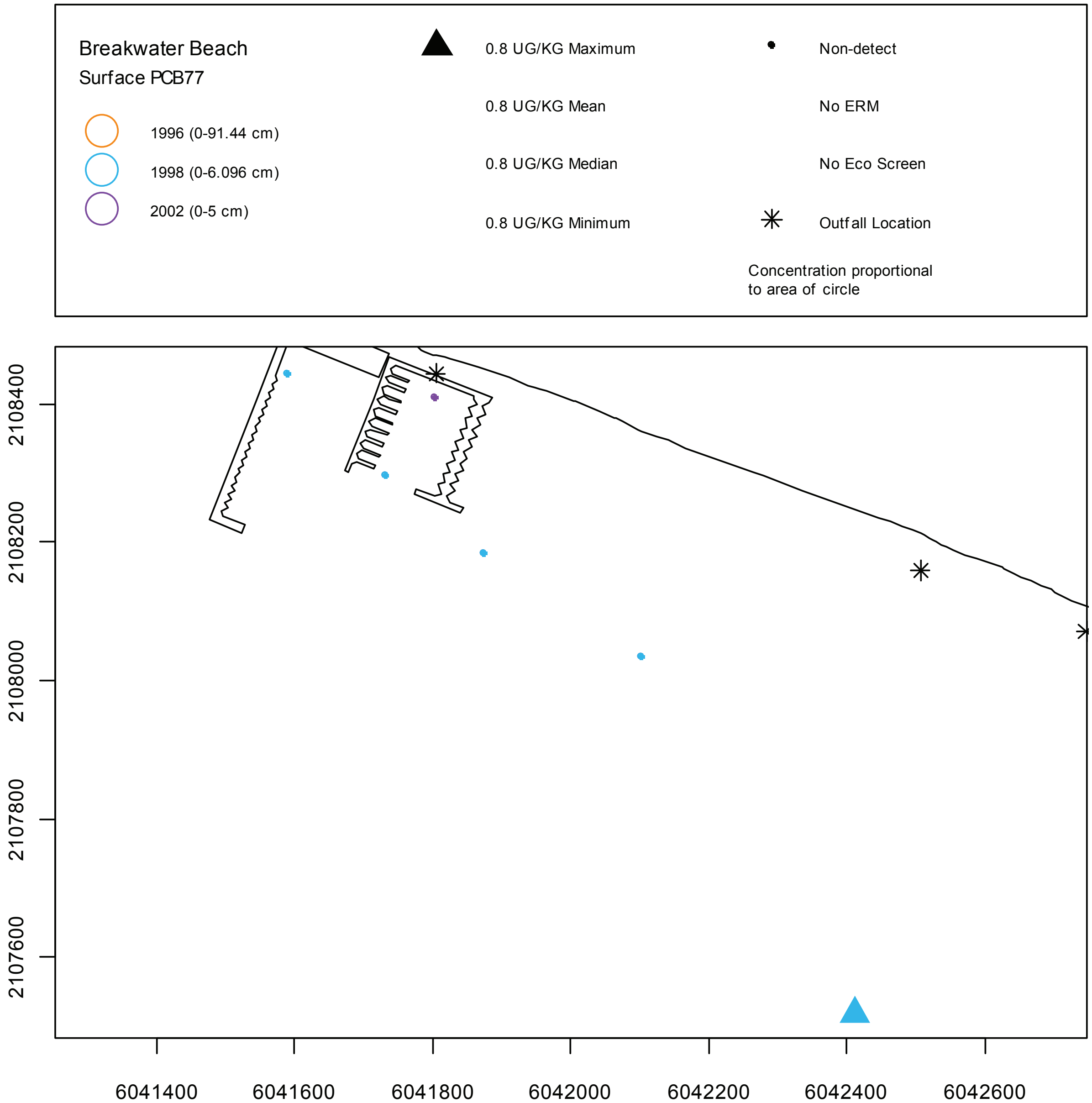


Figure A–372. Bubble Plots of PCB77 in Breakwater Beach Surface Sediment by Year.

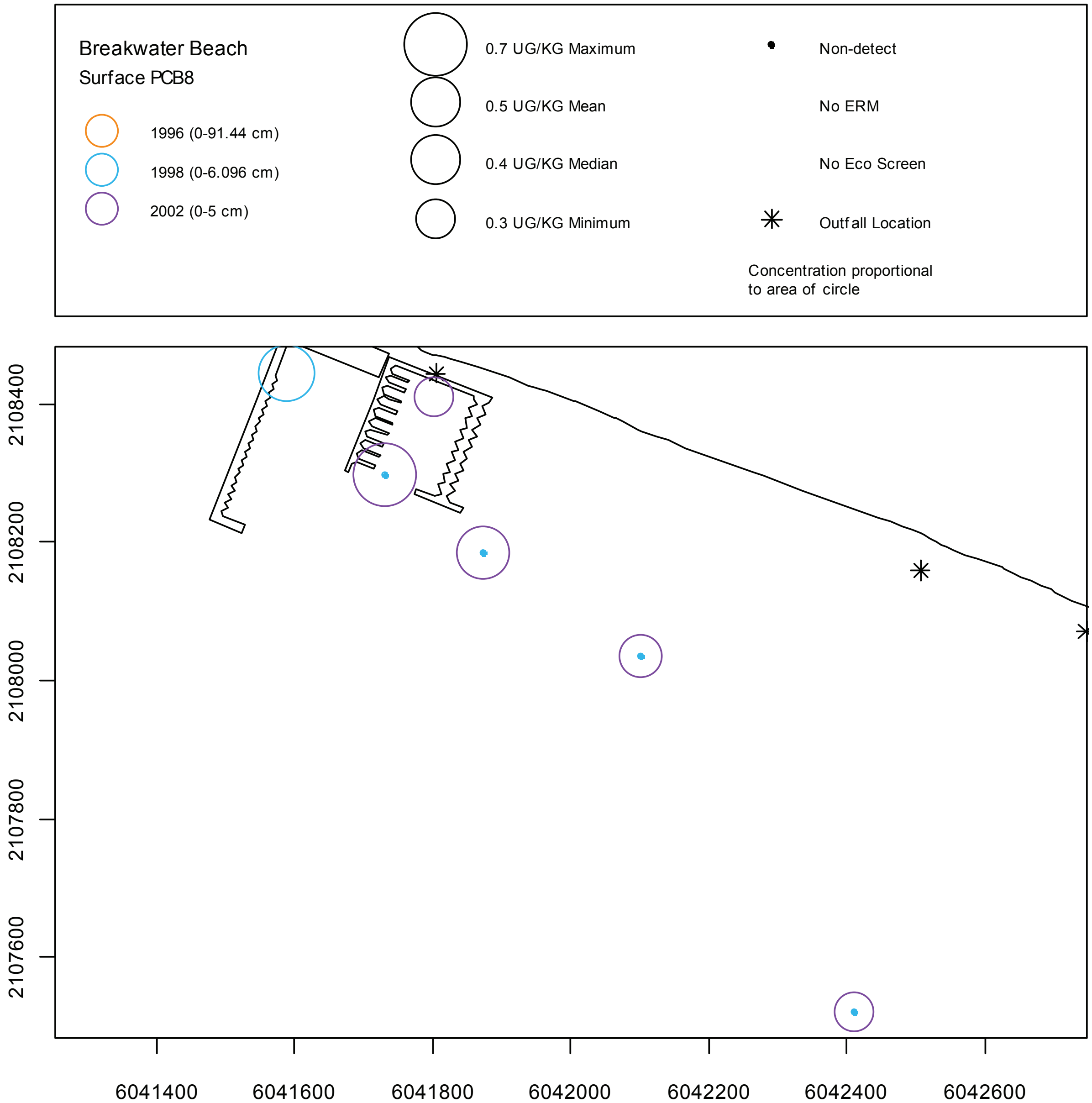


Figure A–373. Bubble Plots of PCB8 in Breakwater Beach Surface Sediment by Year.

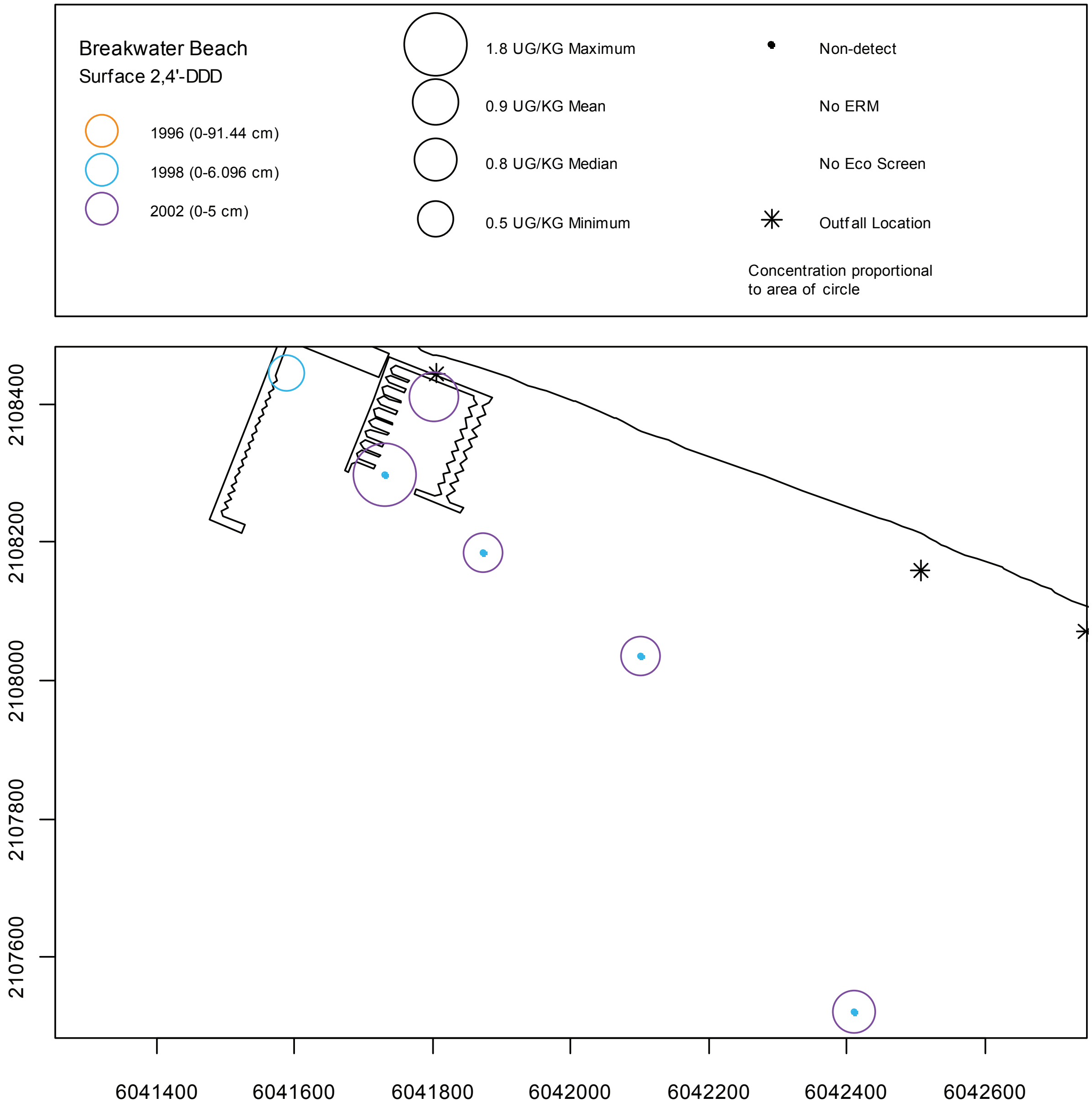


Figure A–374. Bubble Plots of 2,4'-DDD in Breakwater Beach Surface Sediment by Year.

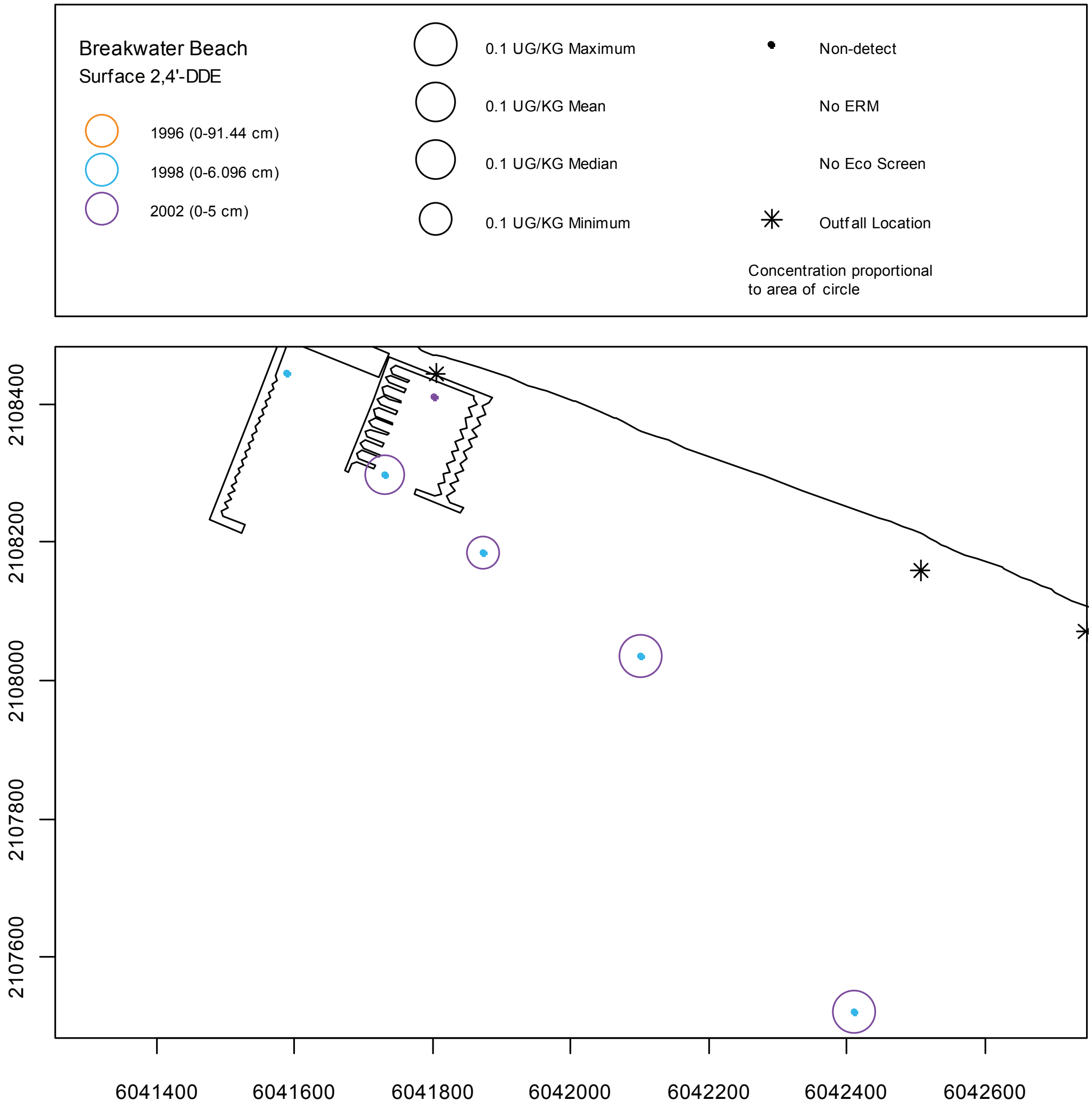


Figure A–375. Bubble Plots of 2,4'-DDE in Breakwater Beach Surface Sediment by Year.

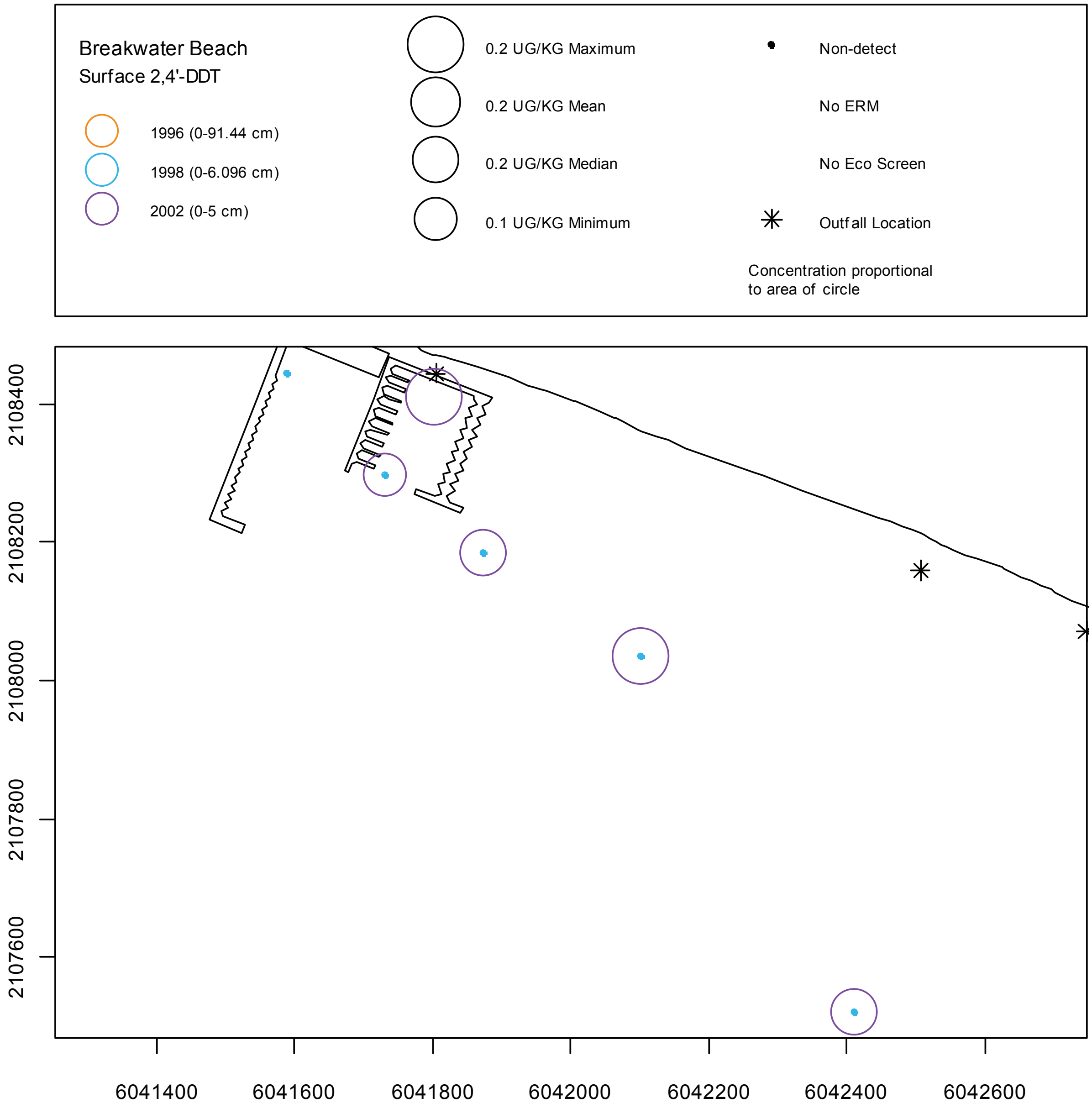


Figure A–376. Bubble Plots of 2,4'-DDT in Breakwater Beach Surface Sediment by Year.

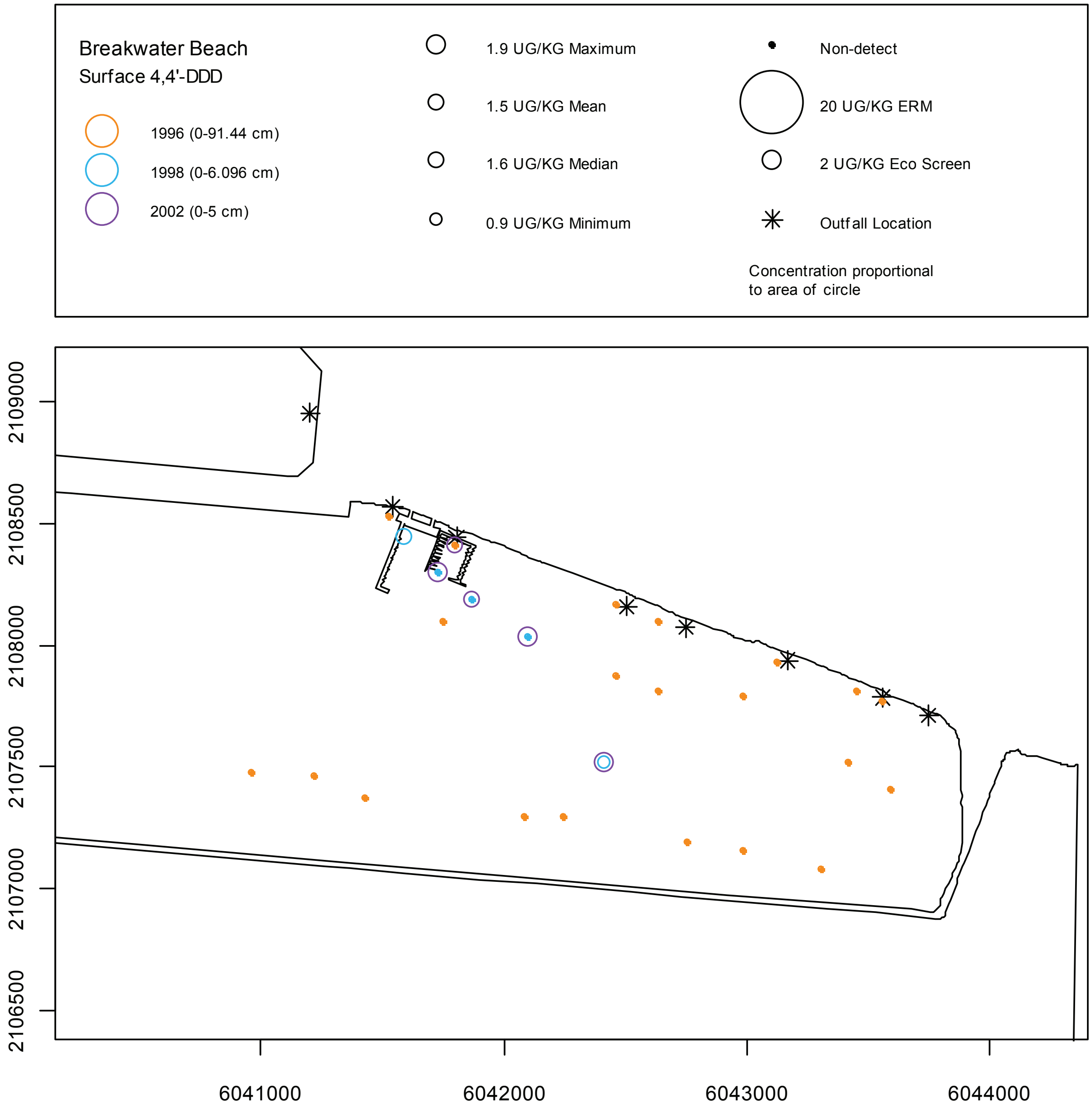


Figure A–377. Bubble Plots of 4,4'-DDD in Breakwater Beach Surface Sediment by Year.

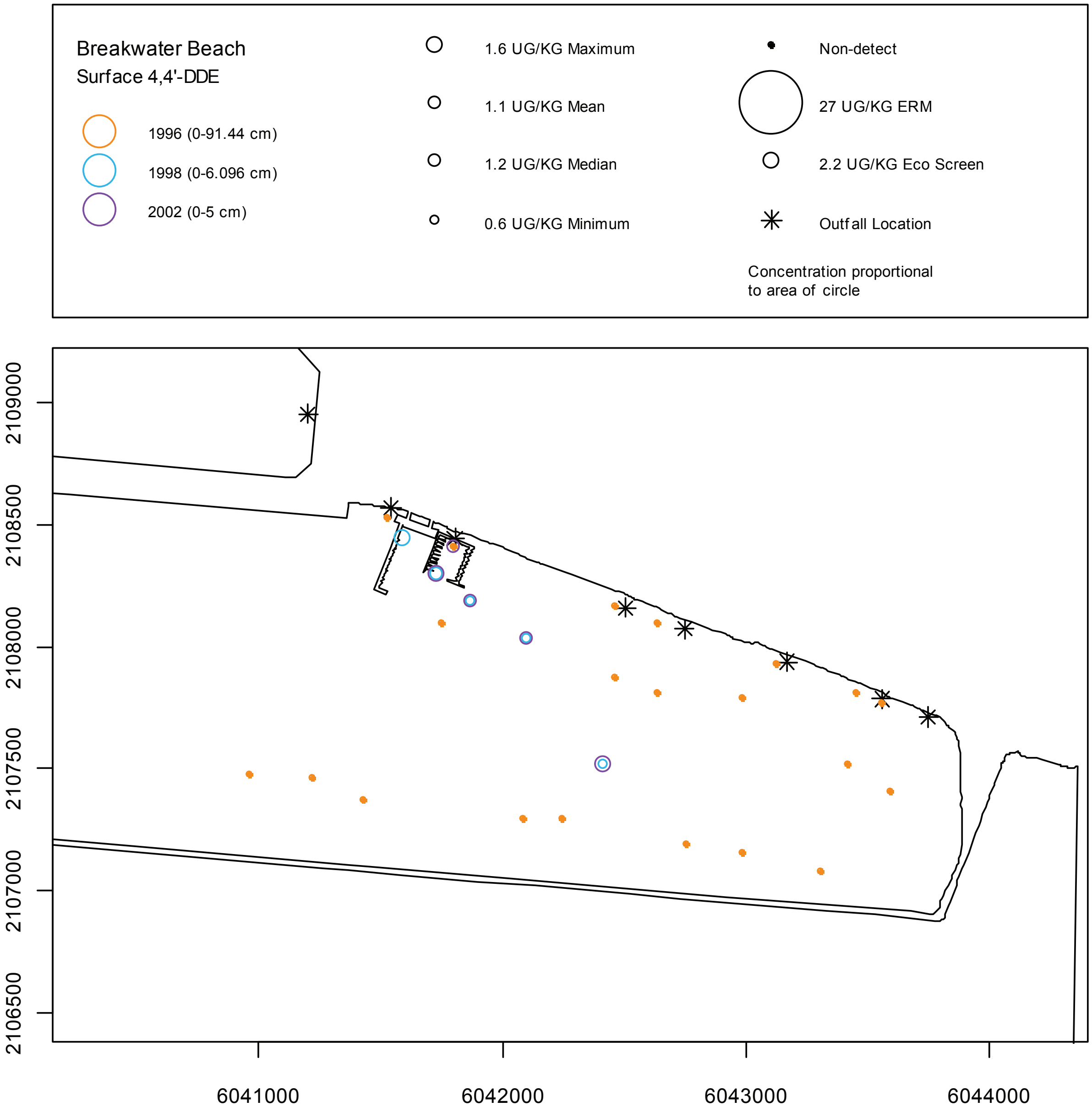


Figure A–378. Bubble Plots of 4,4'-DDE in Breakwater Beach Surface Sediment by Year.

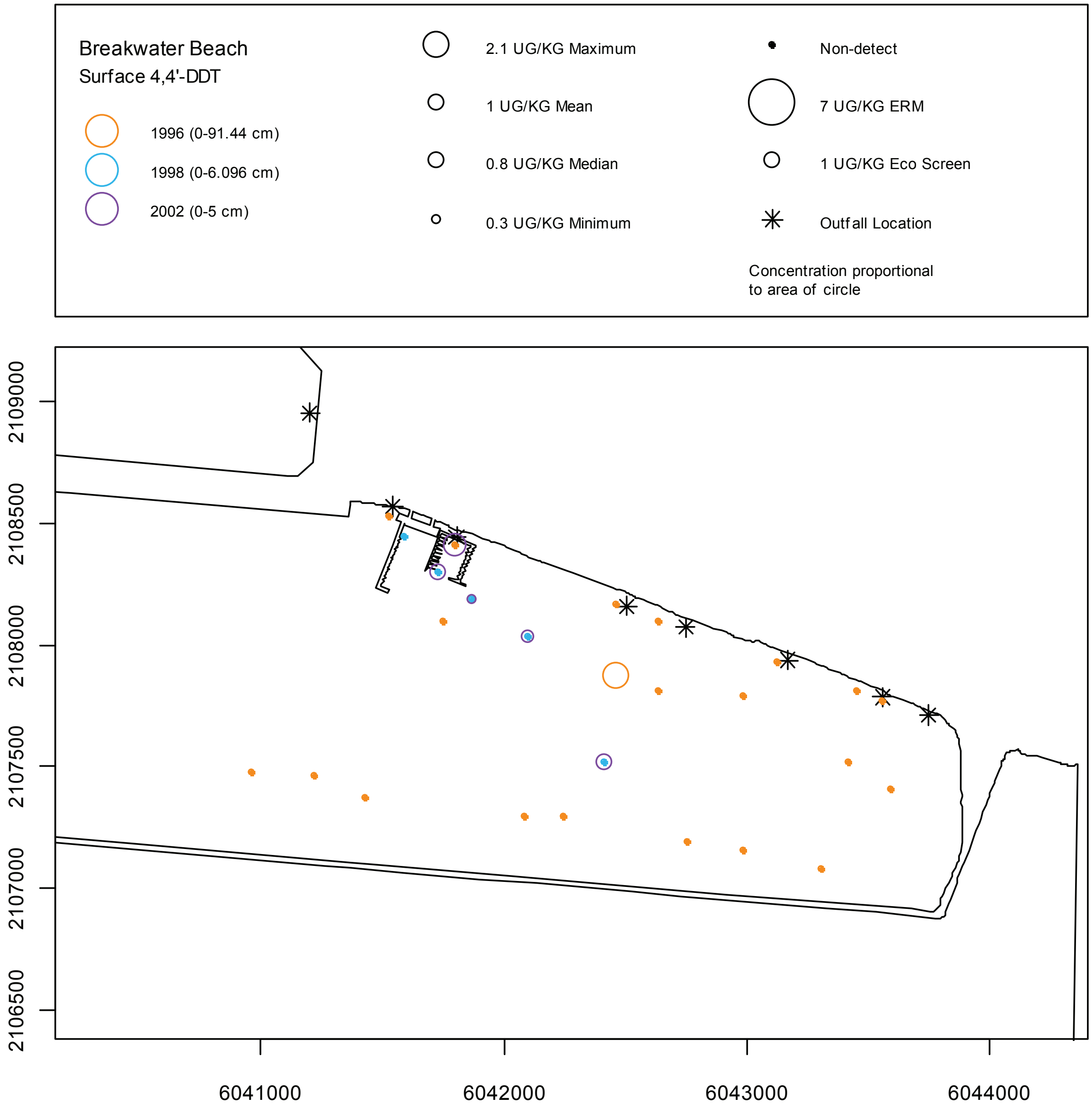


Figure A–379. Bubble Plots of 4,4'-DDT in Breakwater Beach Surface Sediment by Year.

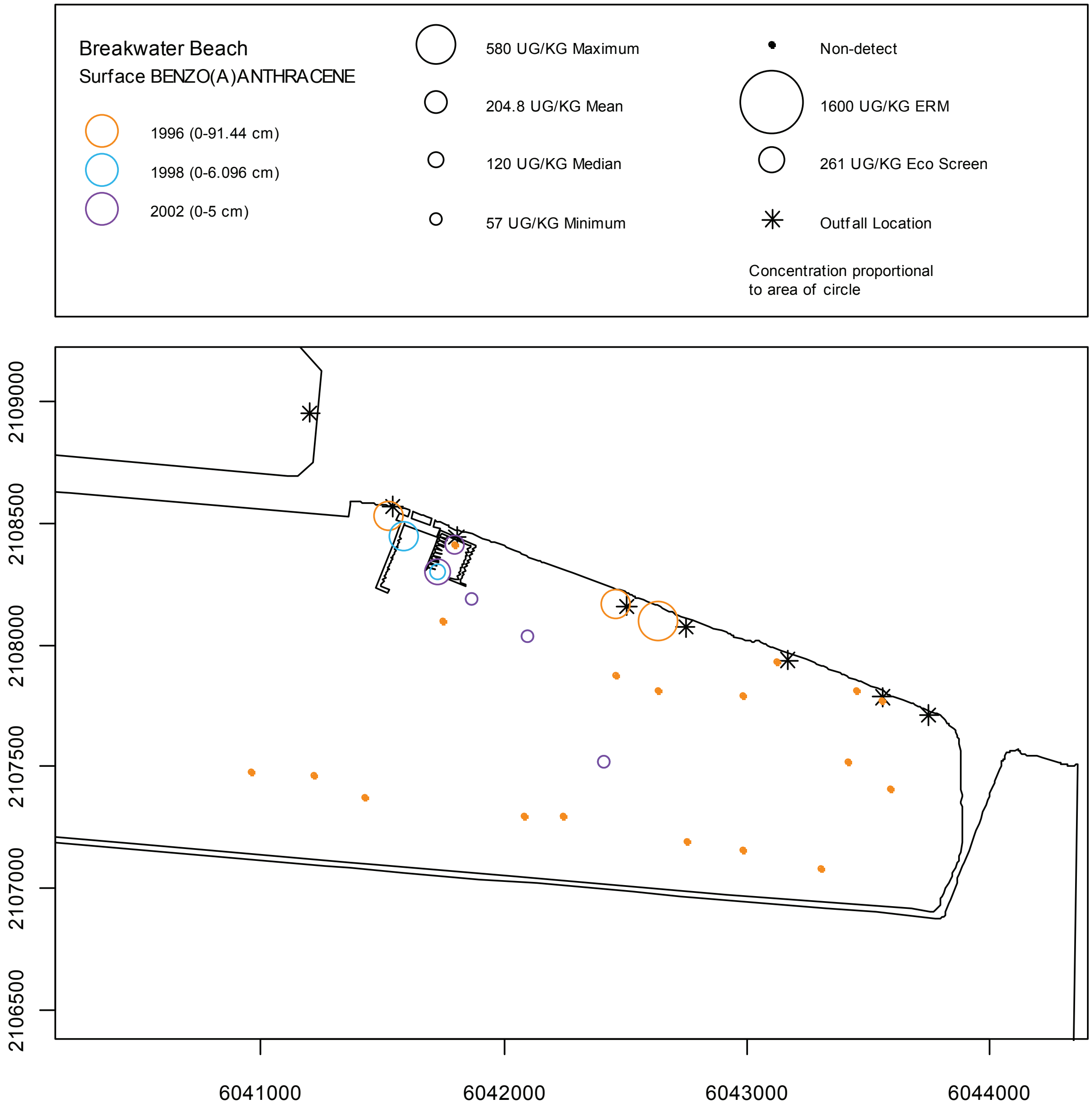


Figure A–380. Bubble Plots of Benzo(a)anthracene in Breakwater Beach Surface Sediment by Year.

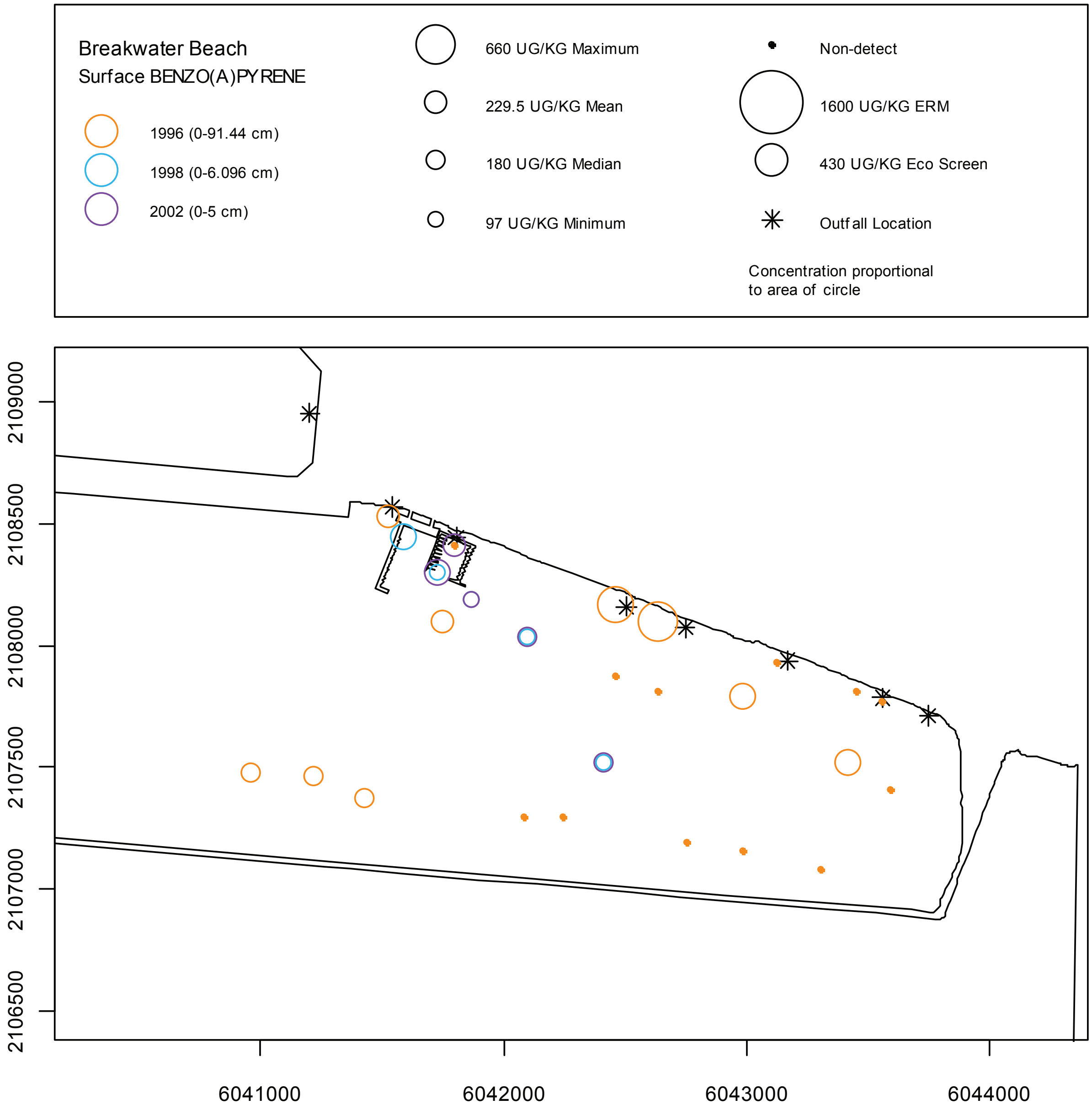


Figure A–381. Bubble Plots of Benzo(a)pyrene in Breakwater Beach Surface Sediment by Year.

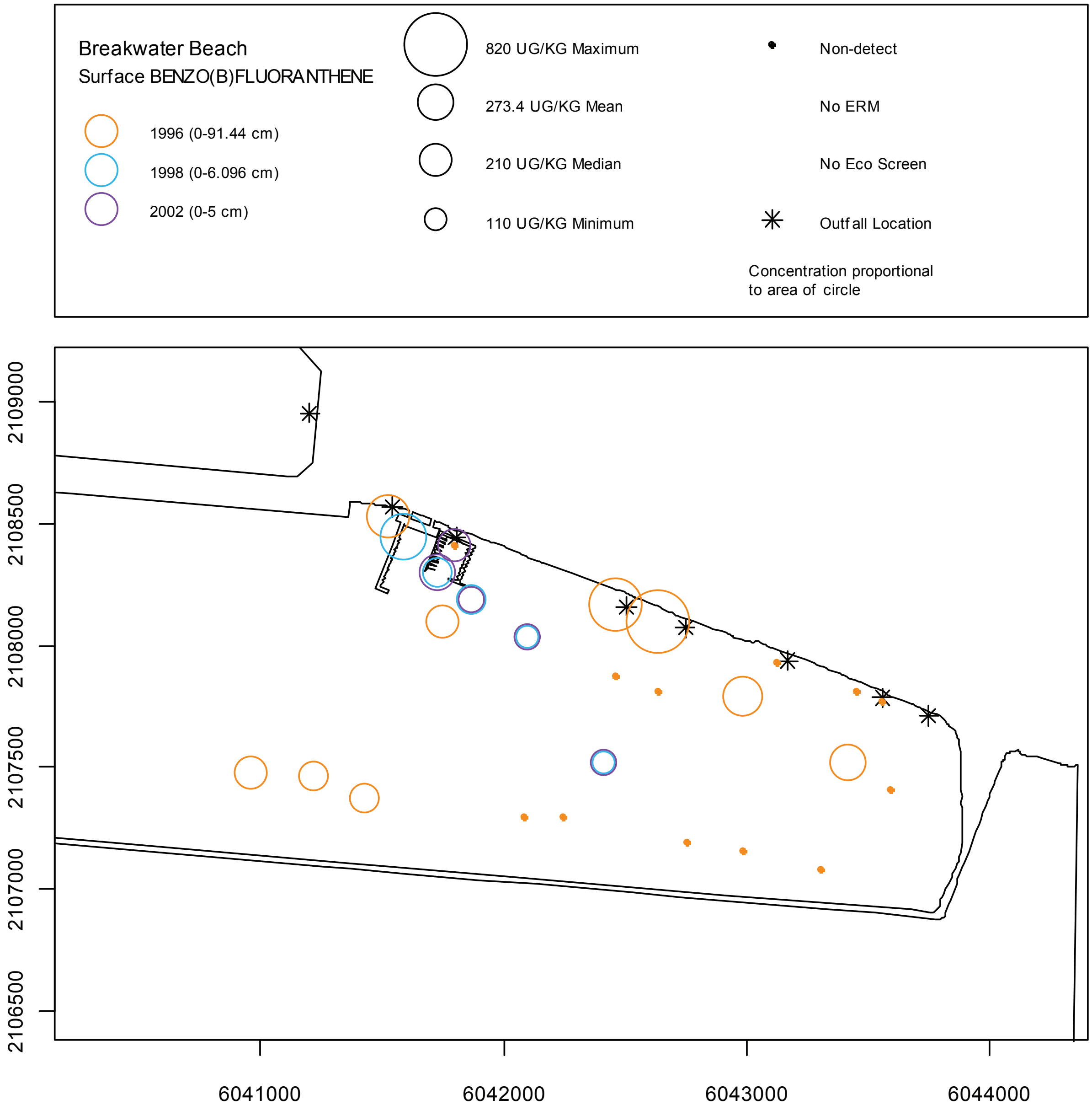


Figure A–382. Bubble Plots of Benzo(b)fluoranthene in Breakwater Beach Surface Sediment by Year.

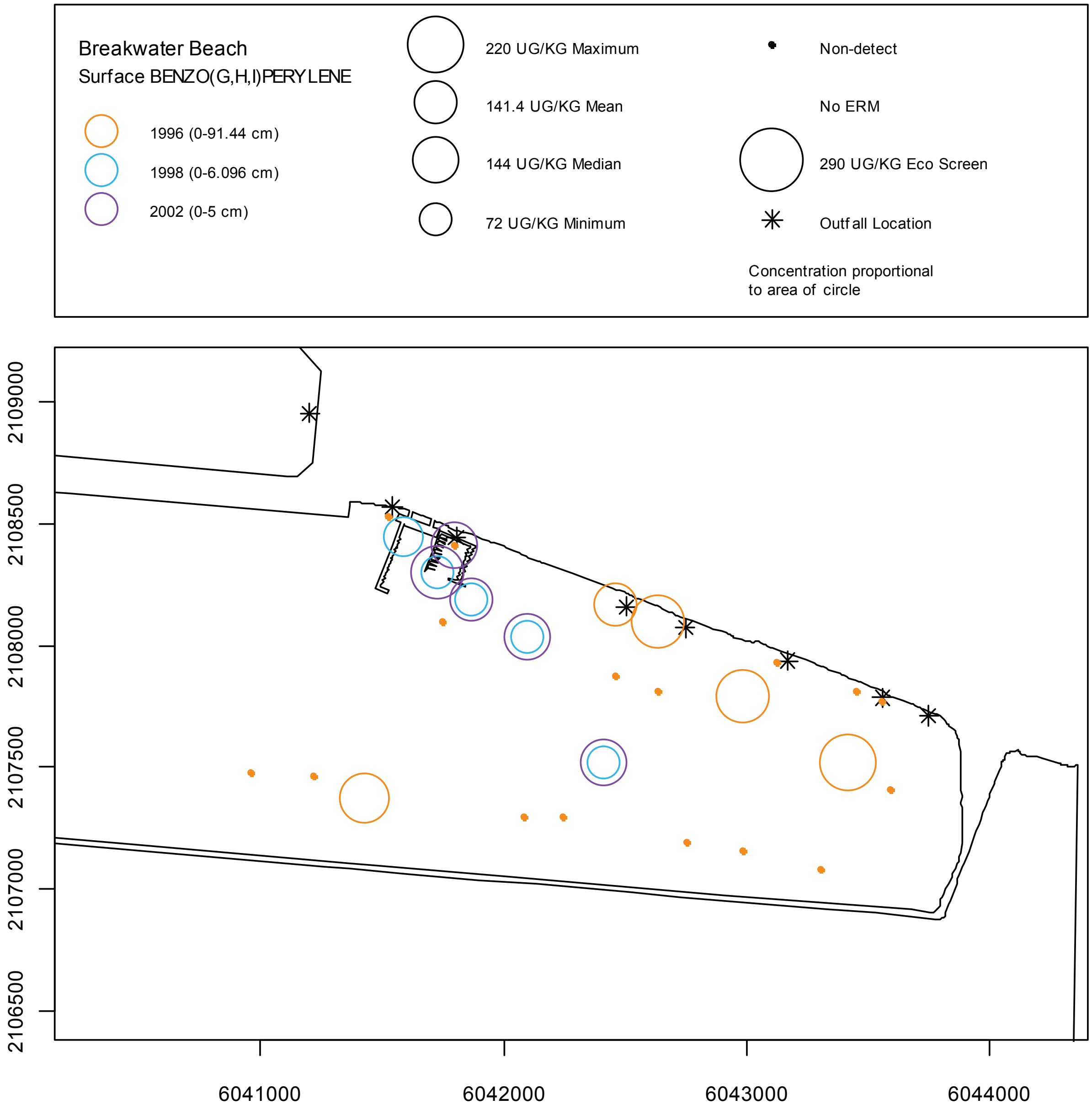


Figure A–383. Bubble Plots of Benzo(g,h,i)perylene in Breakwater Beach Surface Sediment by Year.

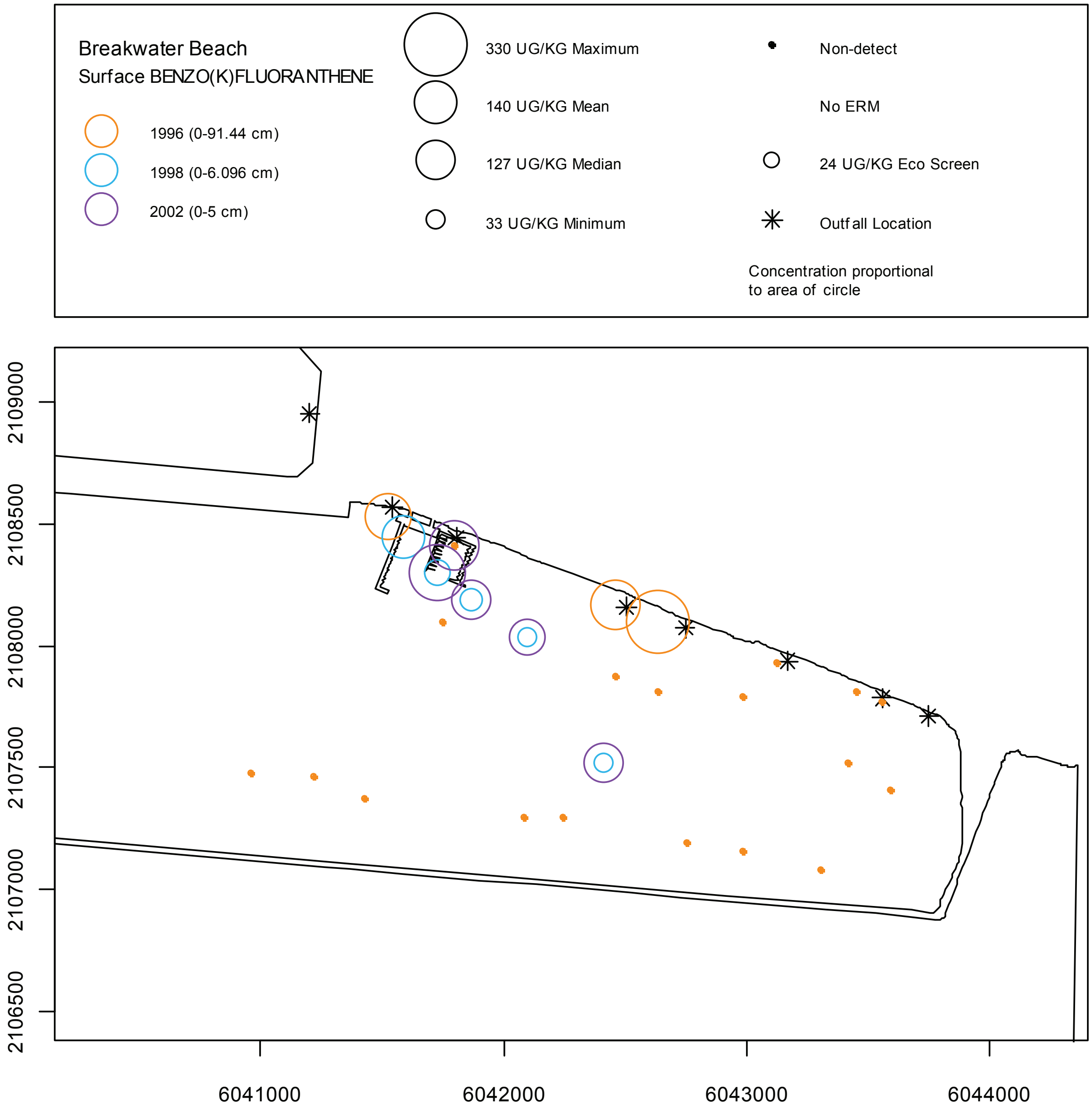


Figure A–384. Bubble Plots of Benzo(k)fluoranthene in Breakwater Beach Surface Sediment by Year.

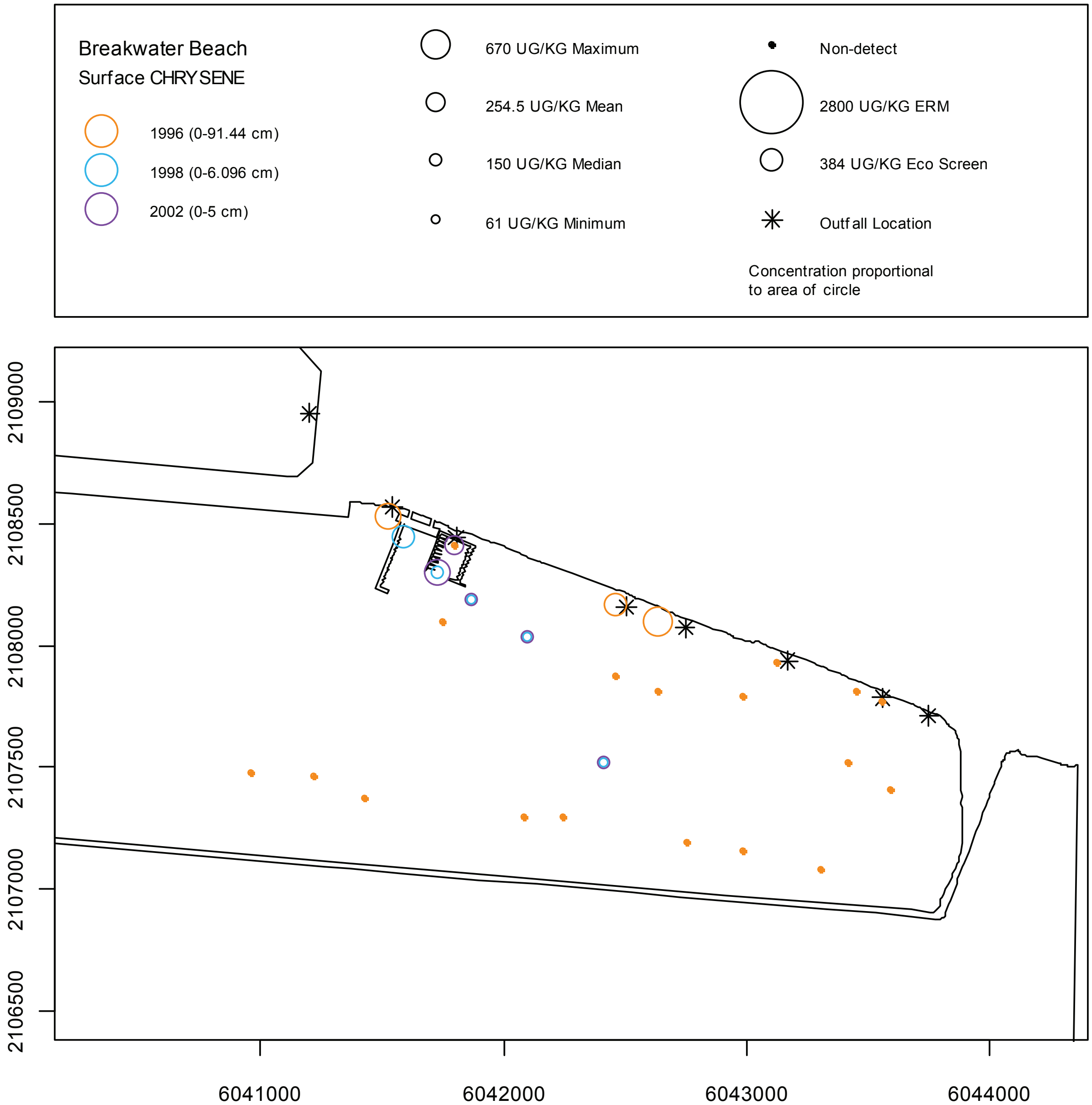


Figure A–385. Bubble Plots of Chrysene in Breakwater Beach Surface Sediment by Year.

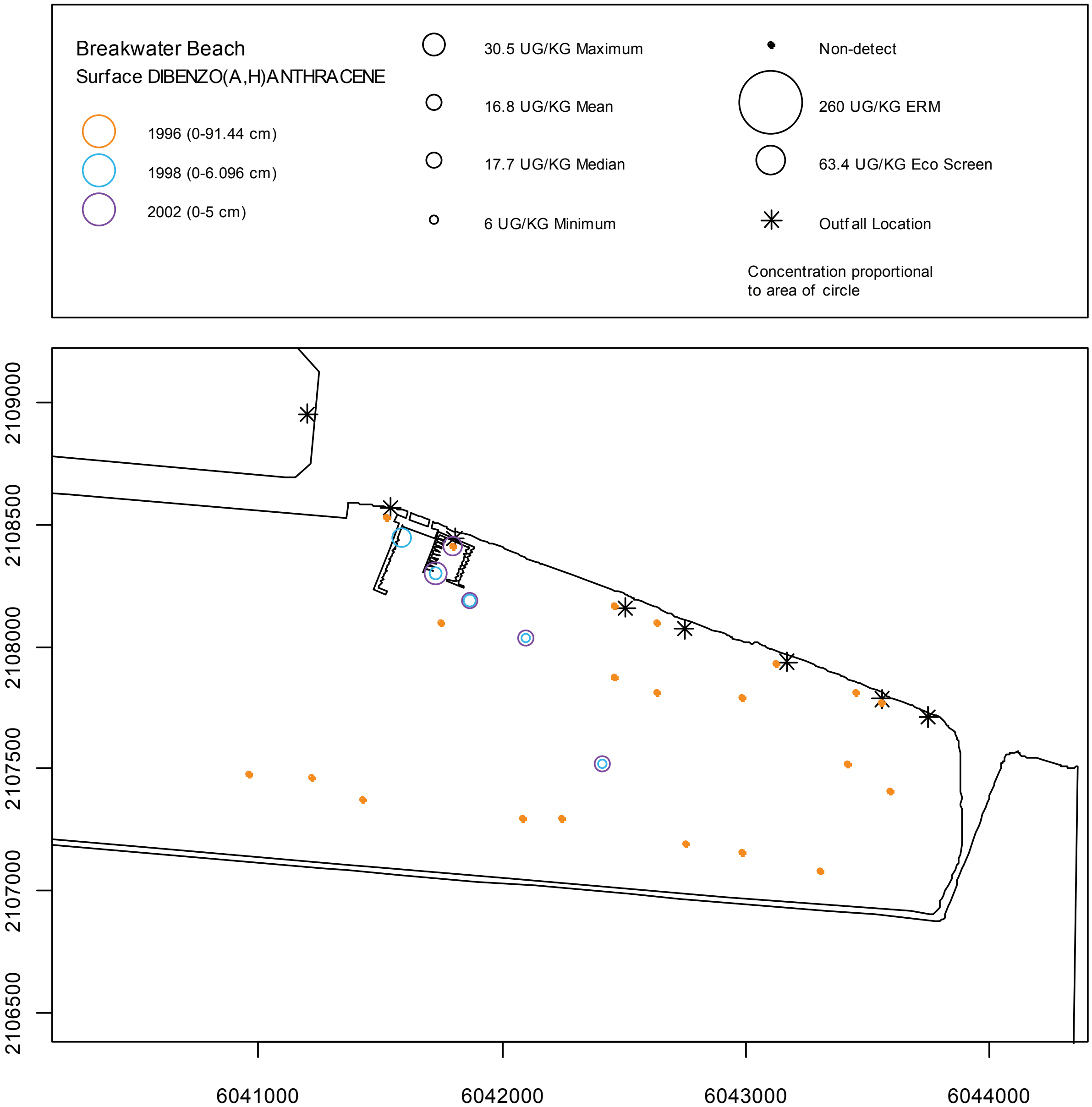


Figure A–386. Bubble Plots of Dibenzo(a,h)anthracene in Breakwater Beach Surface Sediment by Year.

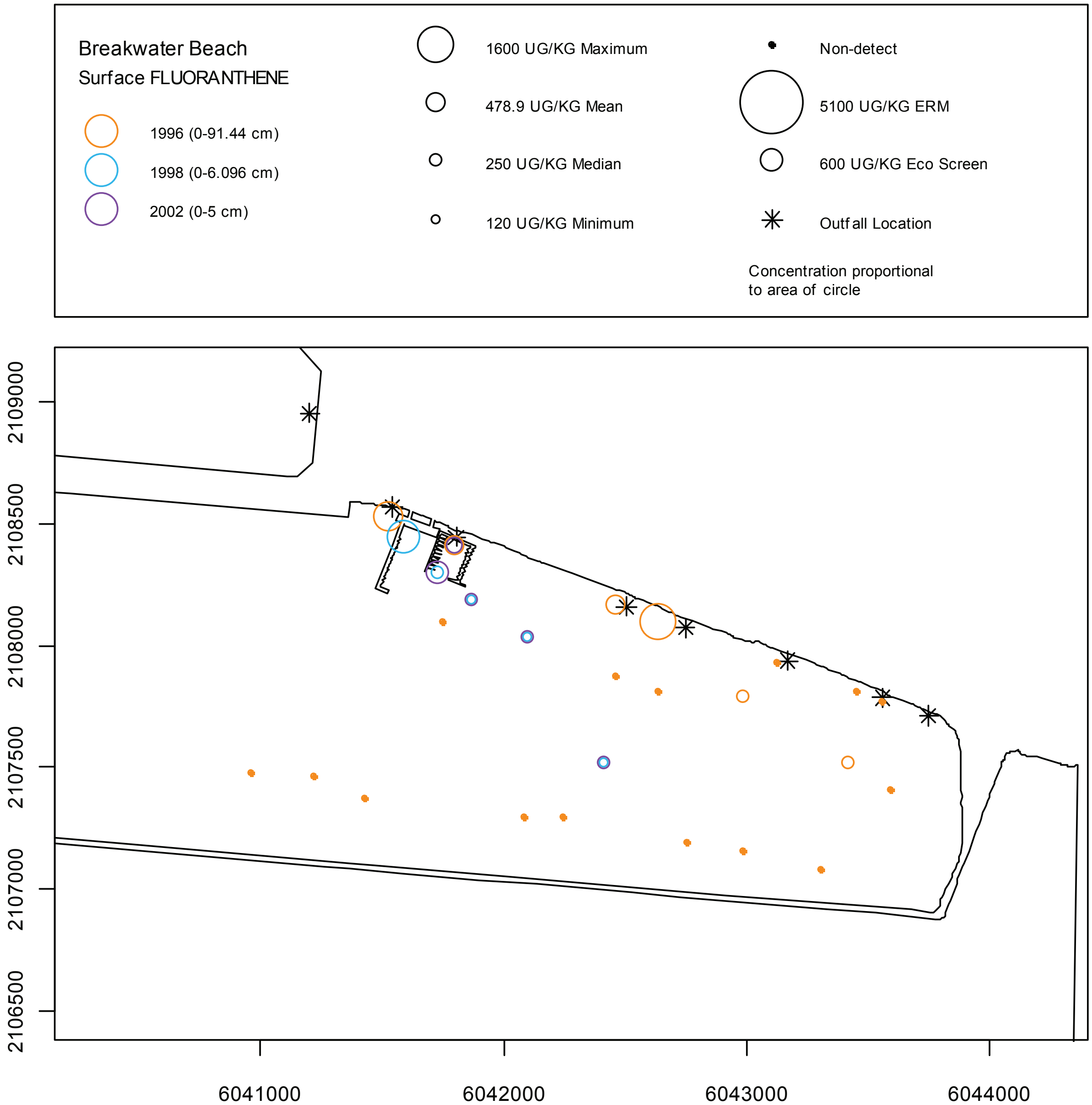


Figure A–387. Bubble Plots of Fluoranthene in Breakwater Beach Surface Sediment by Year.

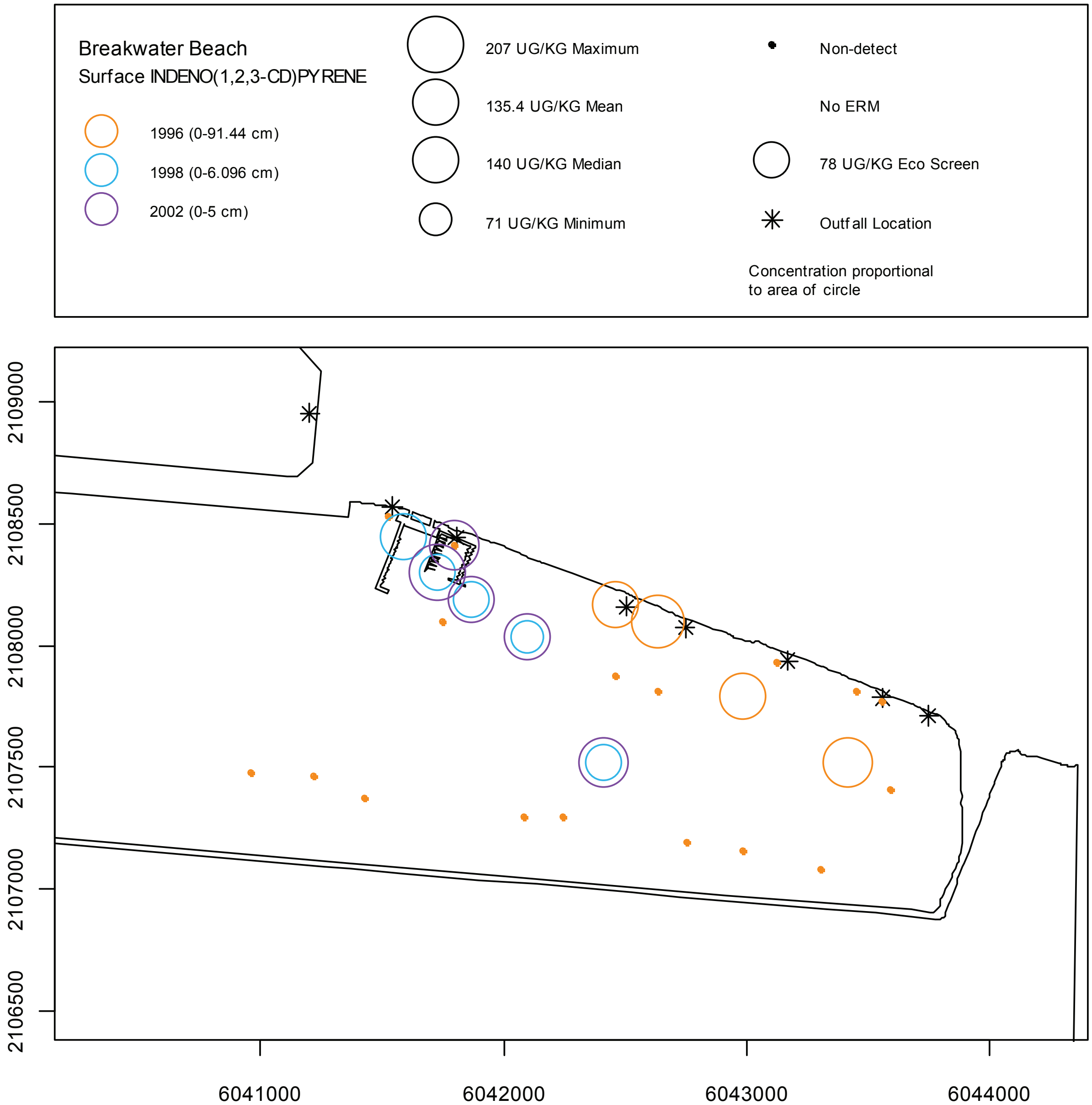


Figure A–388. Bubble Plots of Indeno(1,2,3-cd)pyrene in Breakwater Beach Surface Sediment by Year.

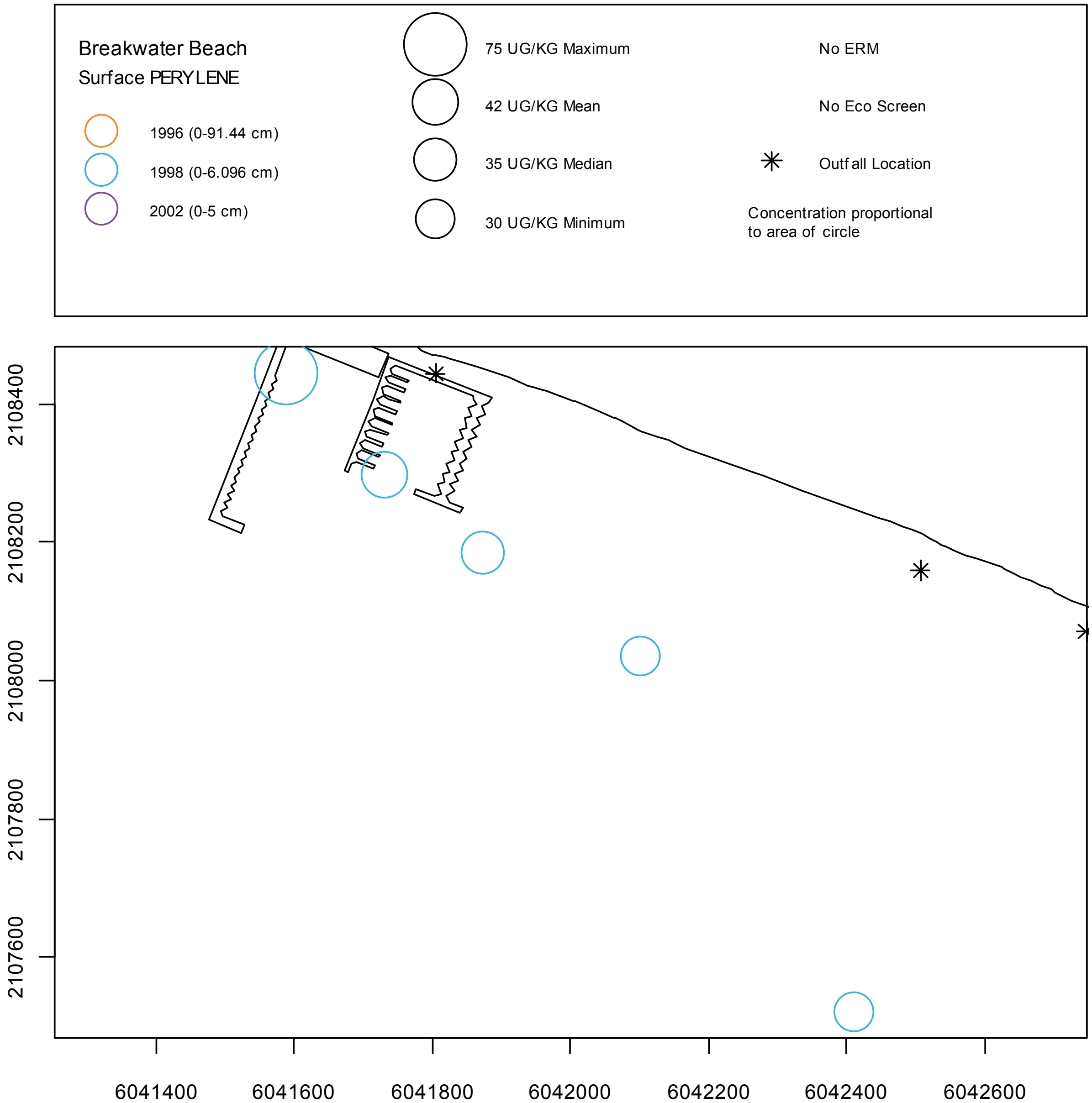


Figure A–389. Bubble Plots of Perylene in Breakwater Beach Surface Sediment by Year.

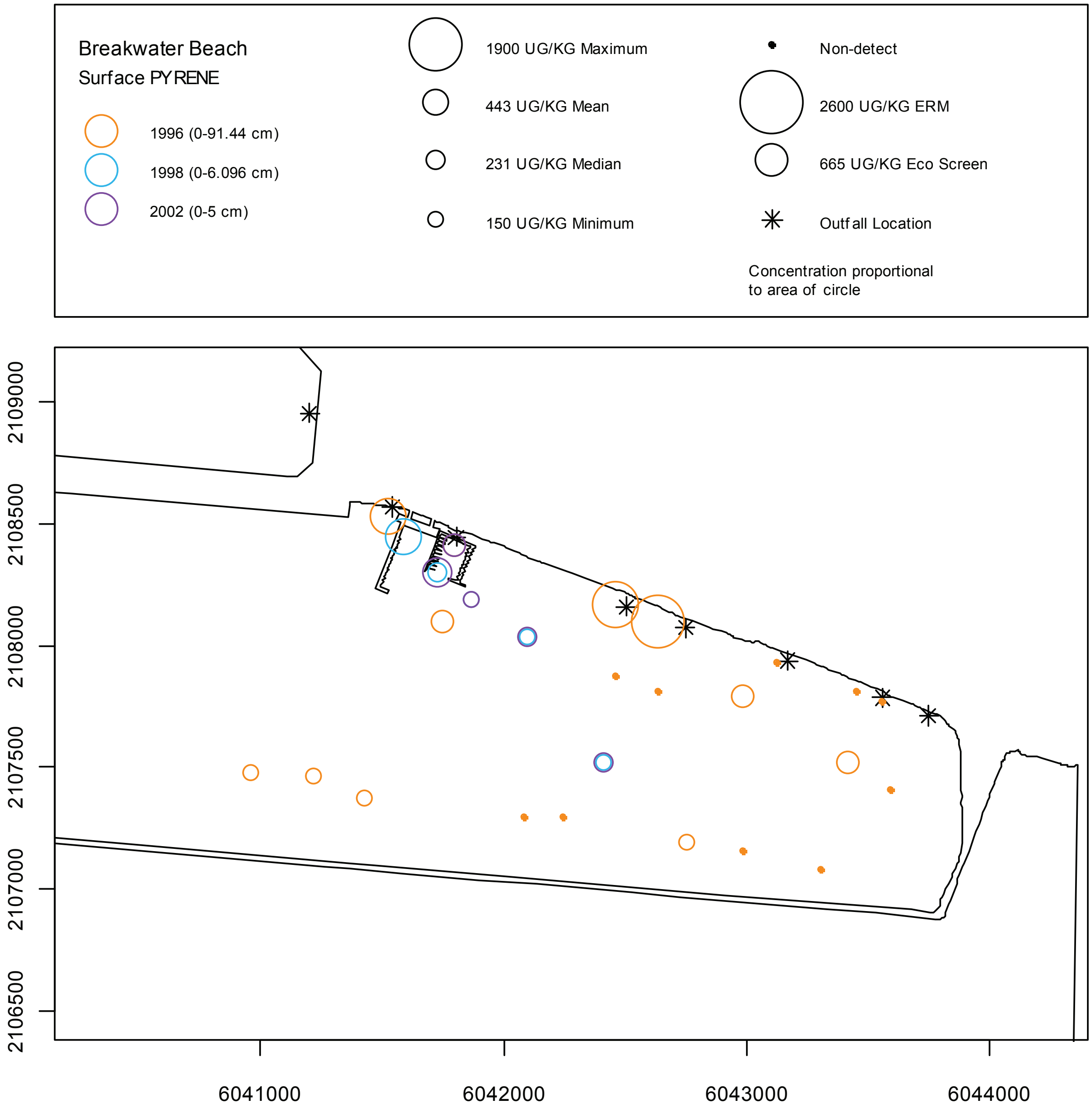


Figure A–390. Bubble Plots of Pyrene in Breakwater Beach Surface Sediment by Year.

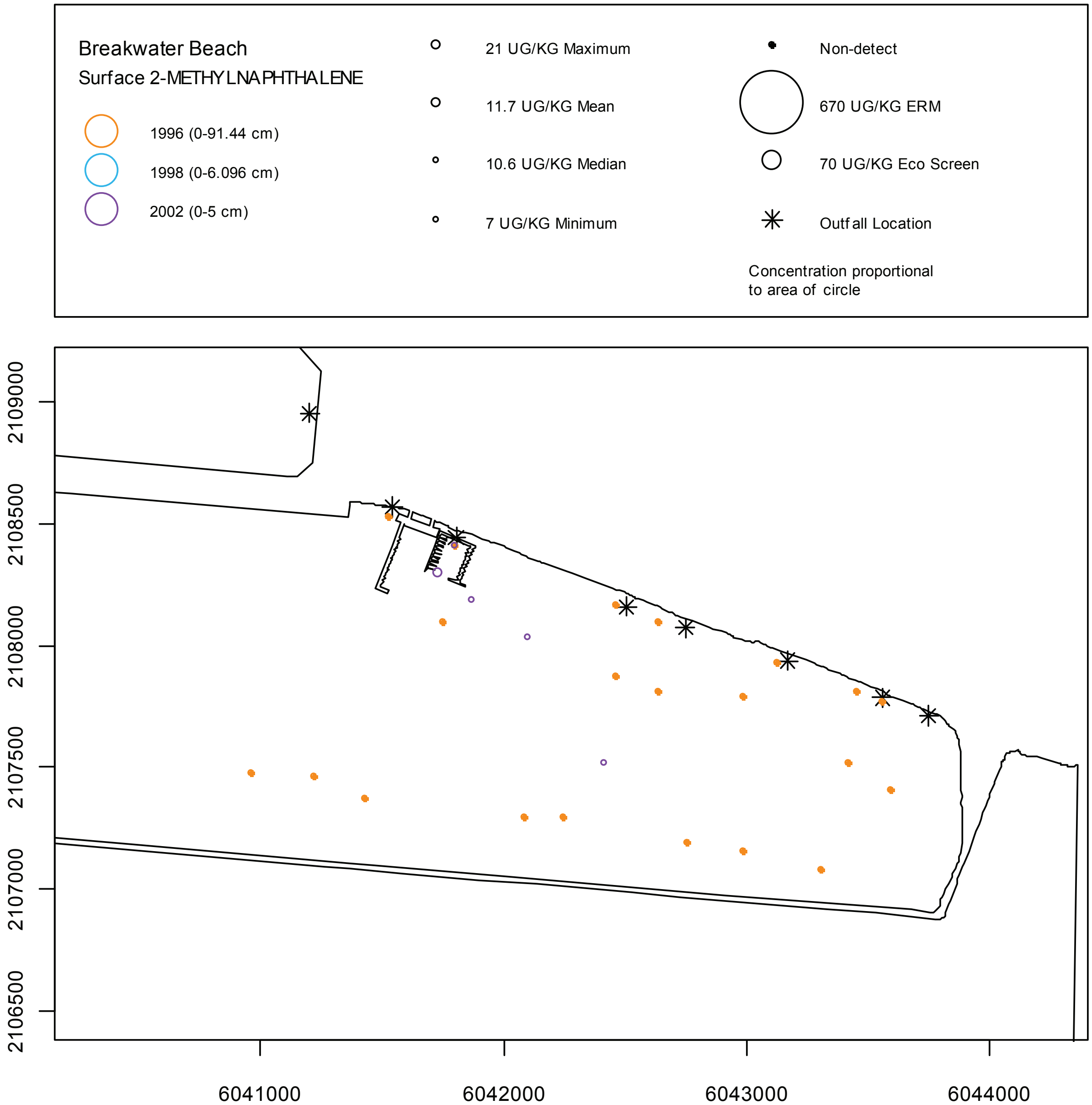


Figure A–391. Bubble Plots of 2-Methylnaphthalene in Breakwater Beach Surface Sediment by Year.

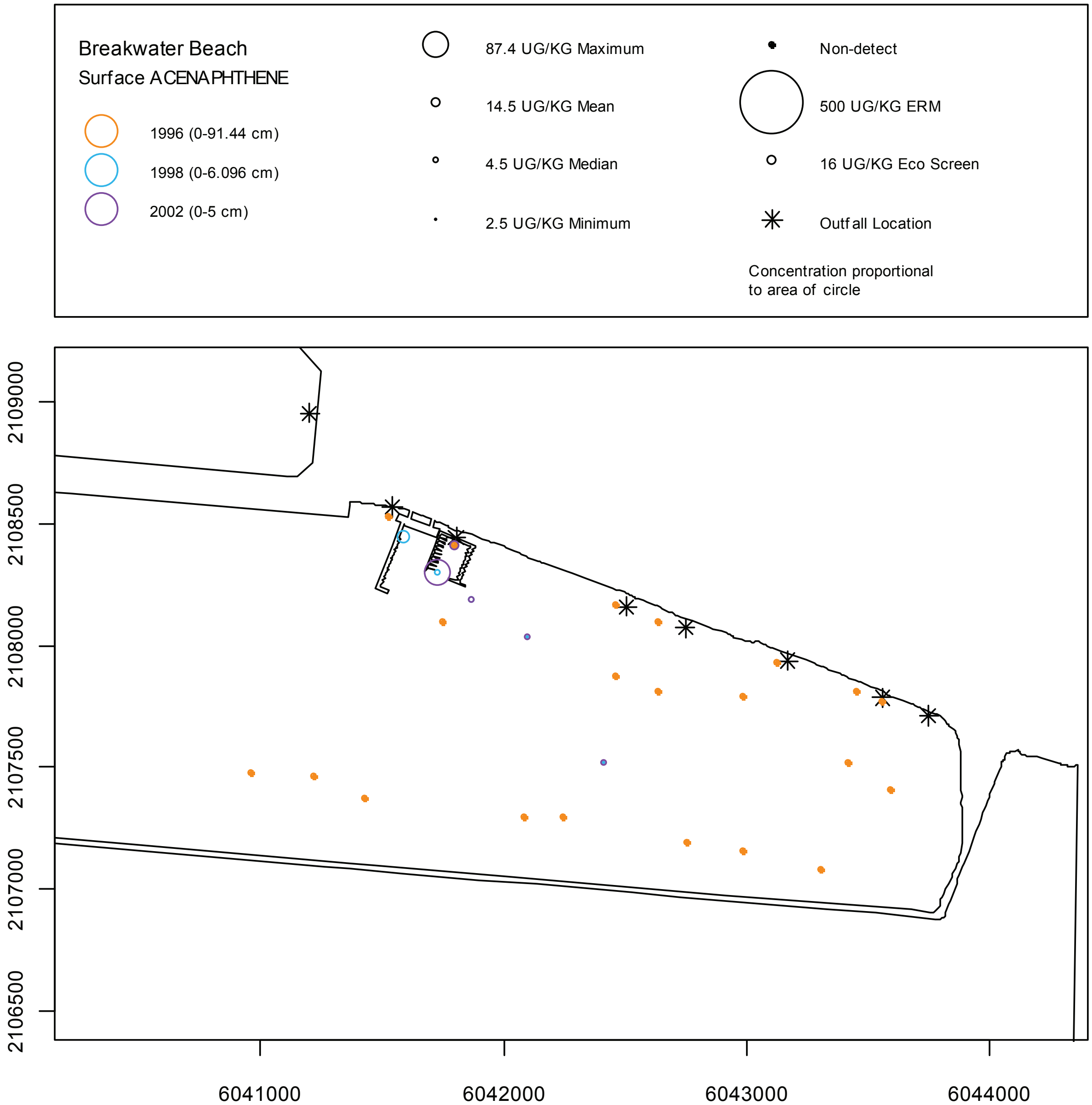


Figure A–392. Bubble Plots of Acenaphthene in Breakwater Beach Surface Sediment by Year.

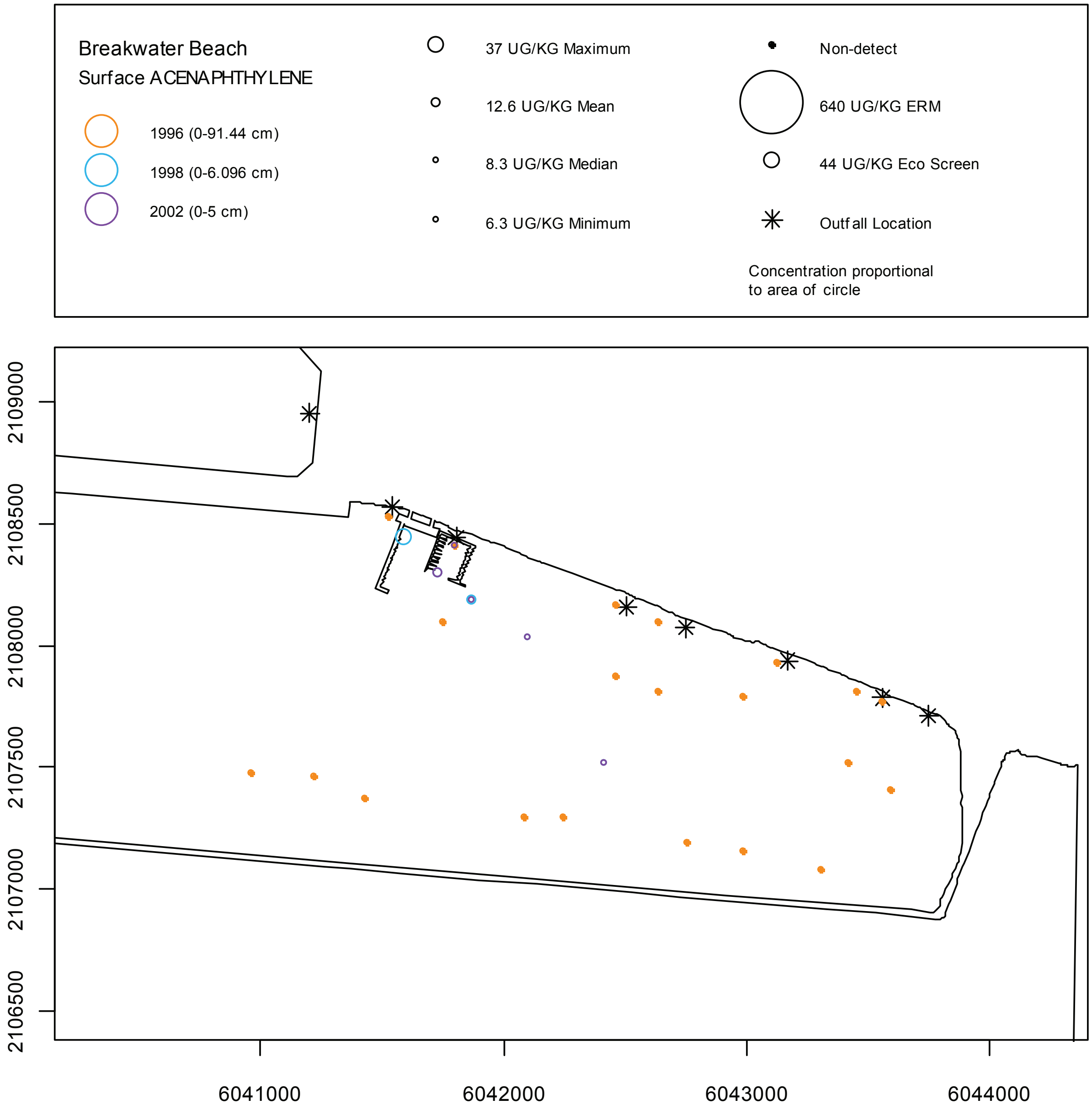


Figure A–393. Bubble Plots of Acenaphthylene in Breakwater Beach Surface Sediment by Year.

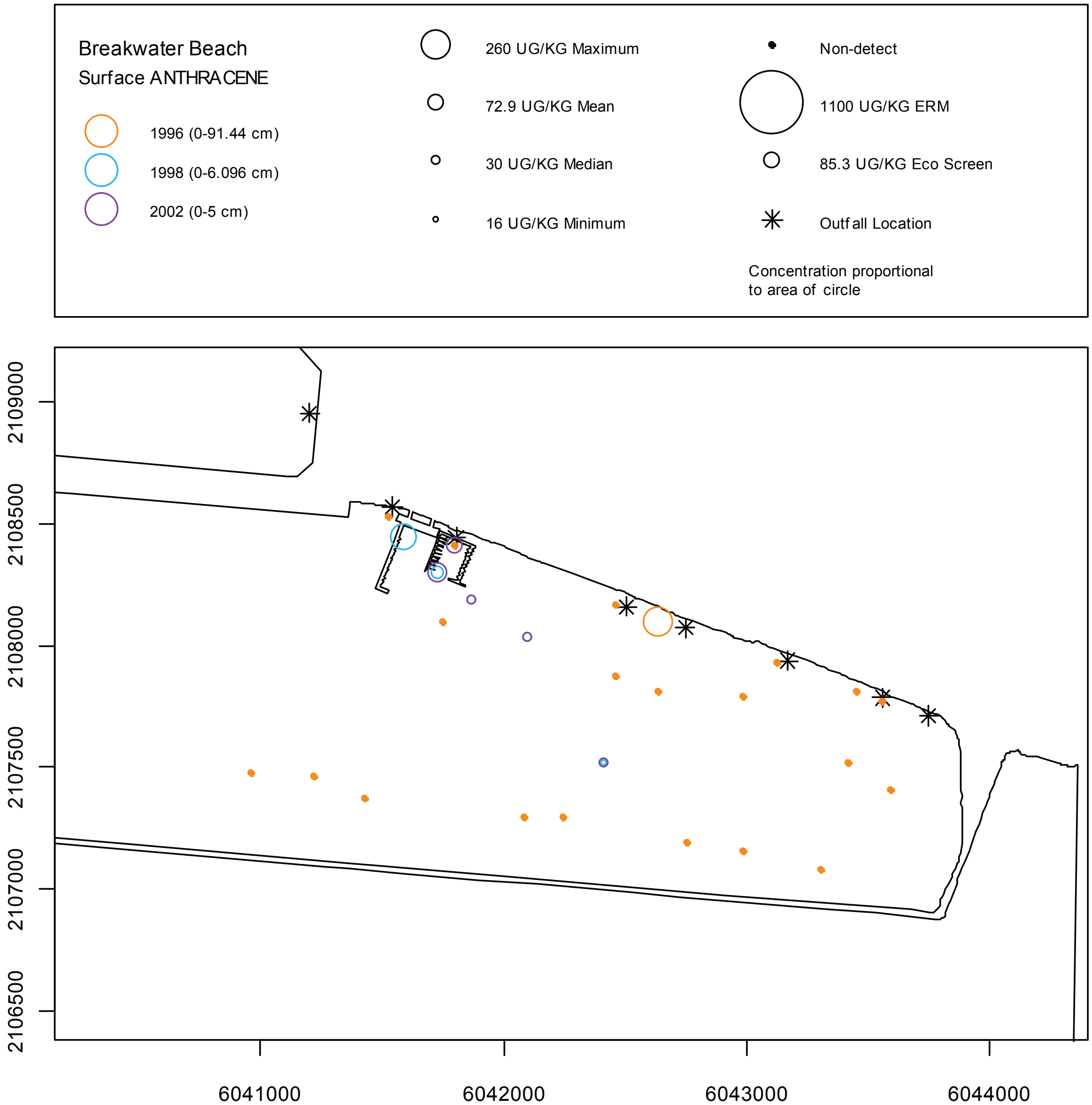


Figure A–394. Bubble Plots of Anthracene in Breakwater Beach Surface Sediment by Year.

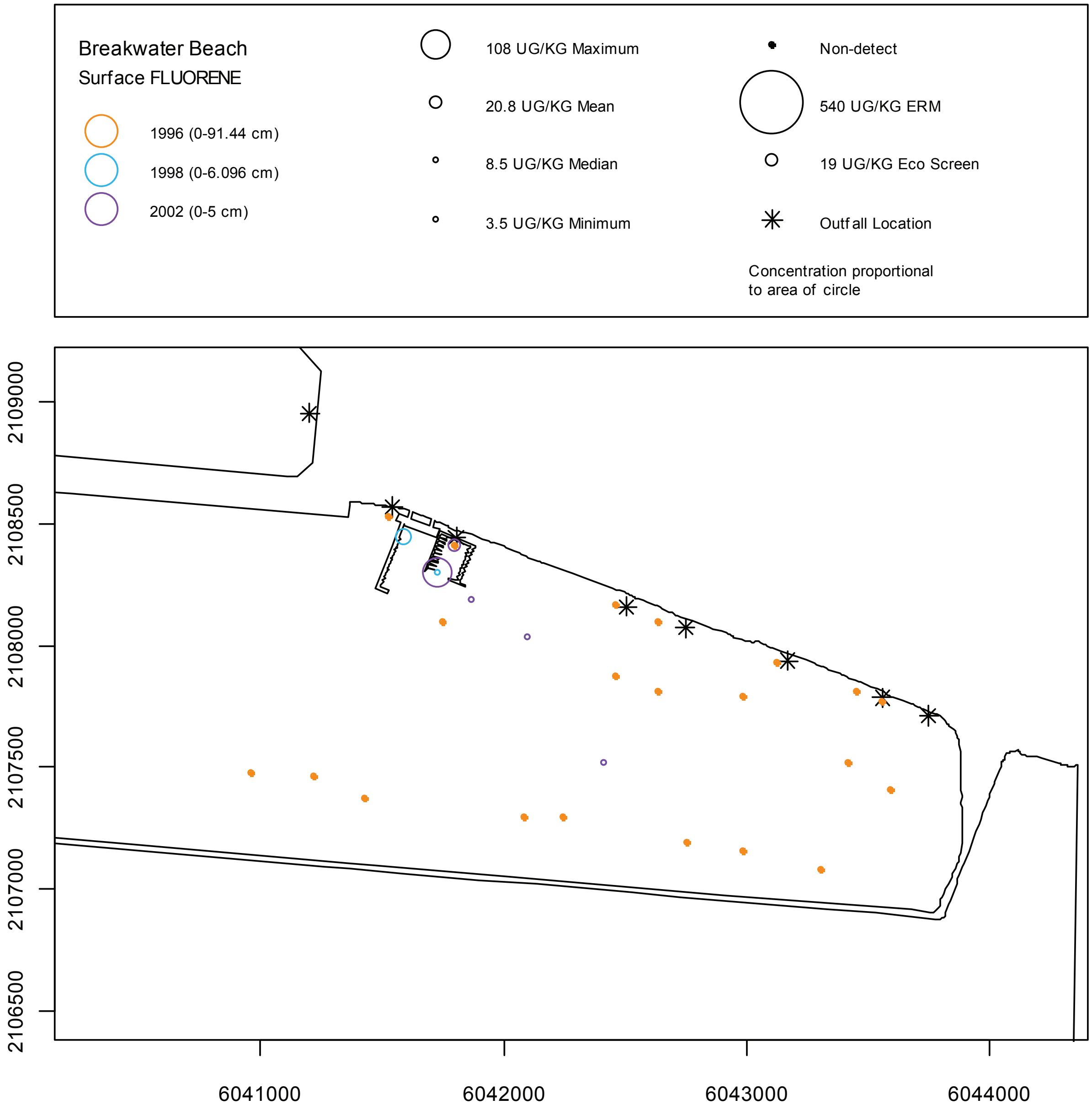


Figure A–395. Bubble Plots of Fluorene in Breakwater Beach Surface Sediment by Year.

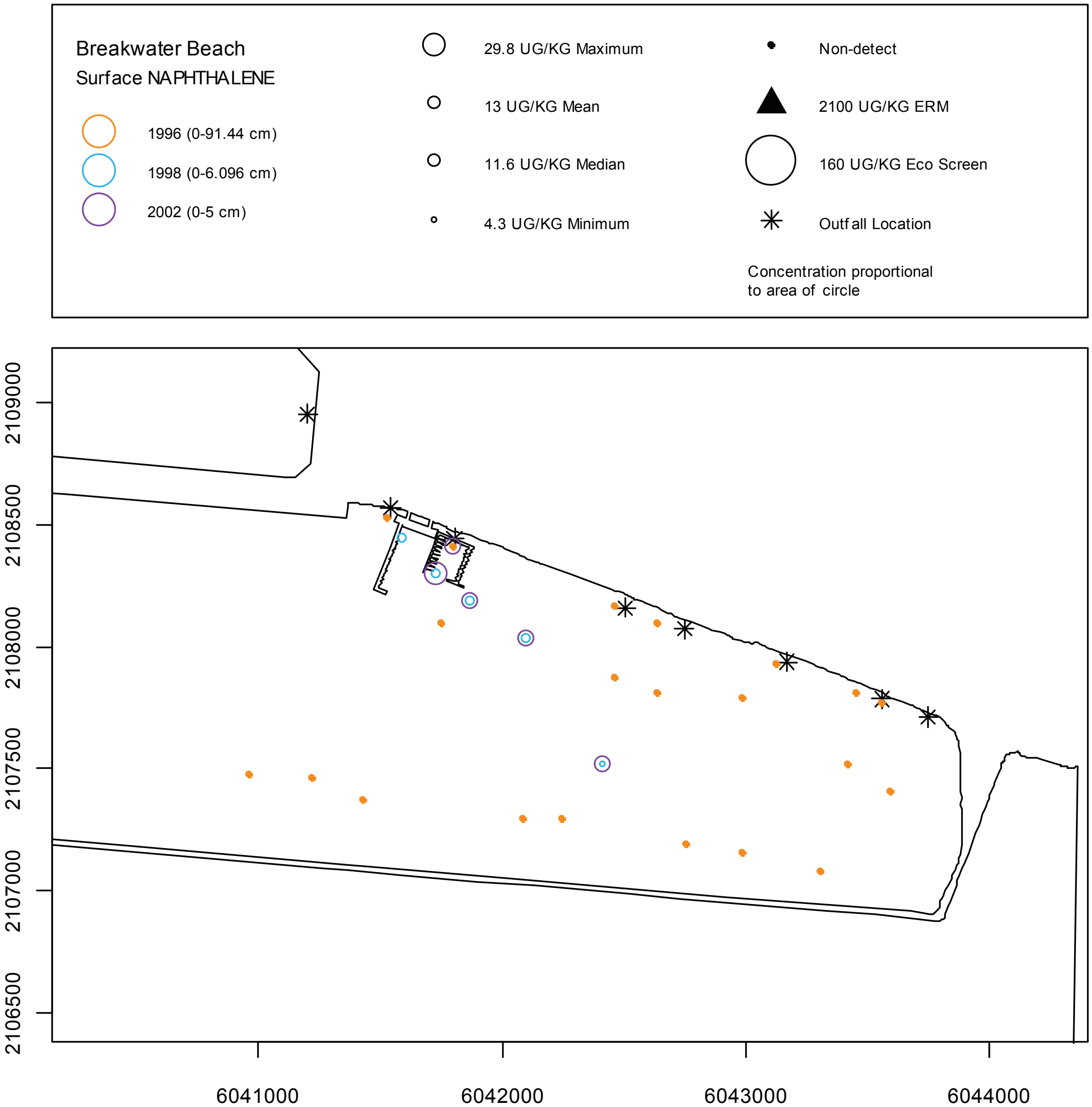


Figure A–396. Bubble Plots of Naphthalene in Breakwater Beach Surface Sediment by Year.

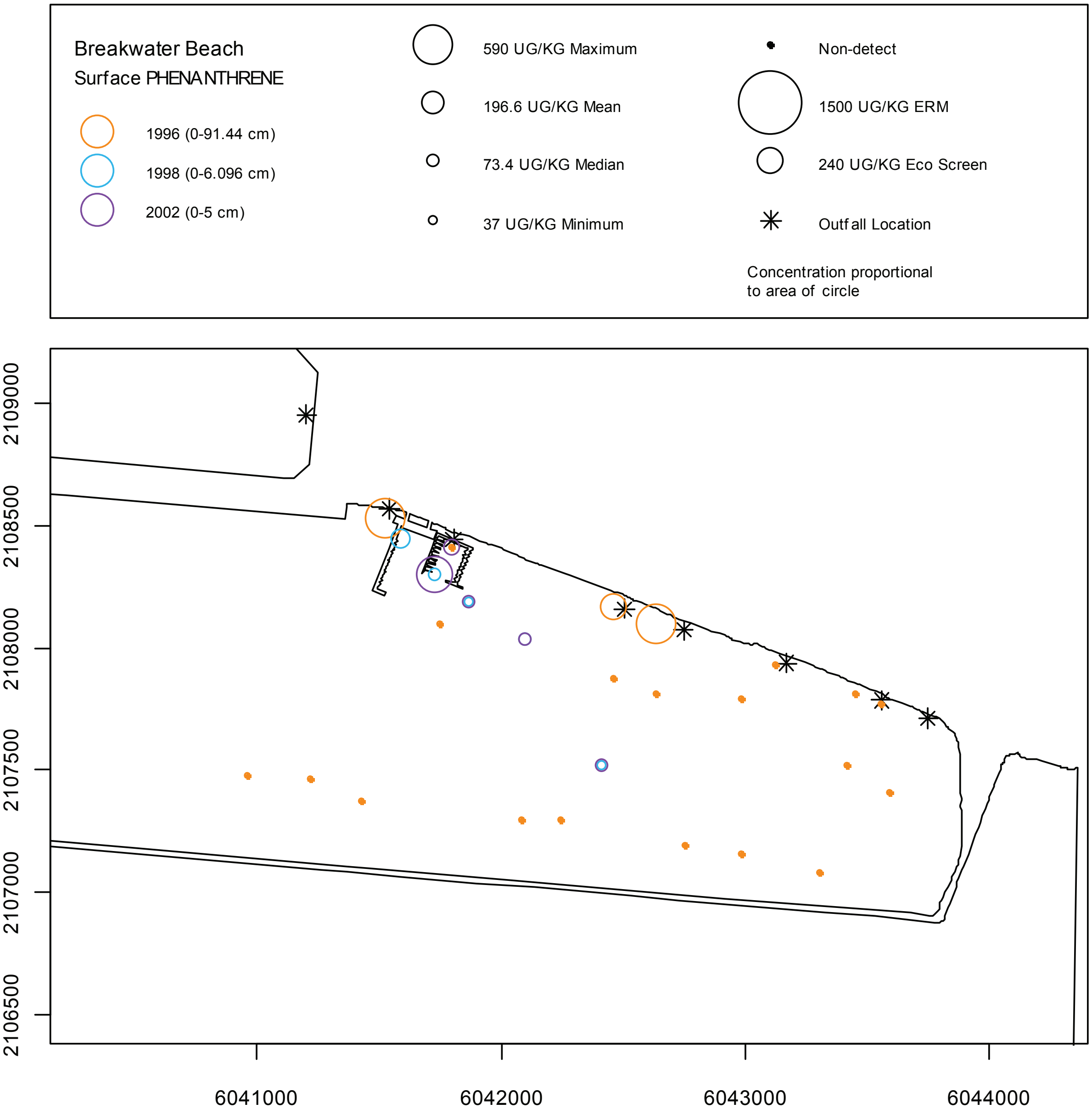


Figure A–397. Bubble Plots of Phenanthrene in Breakwater Beach Surface Sediment by Year.

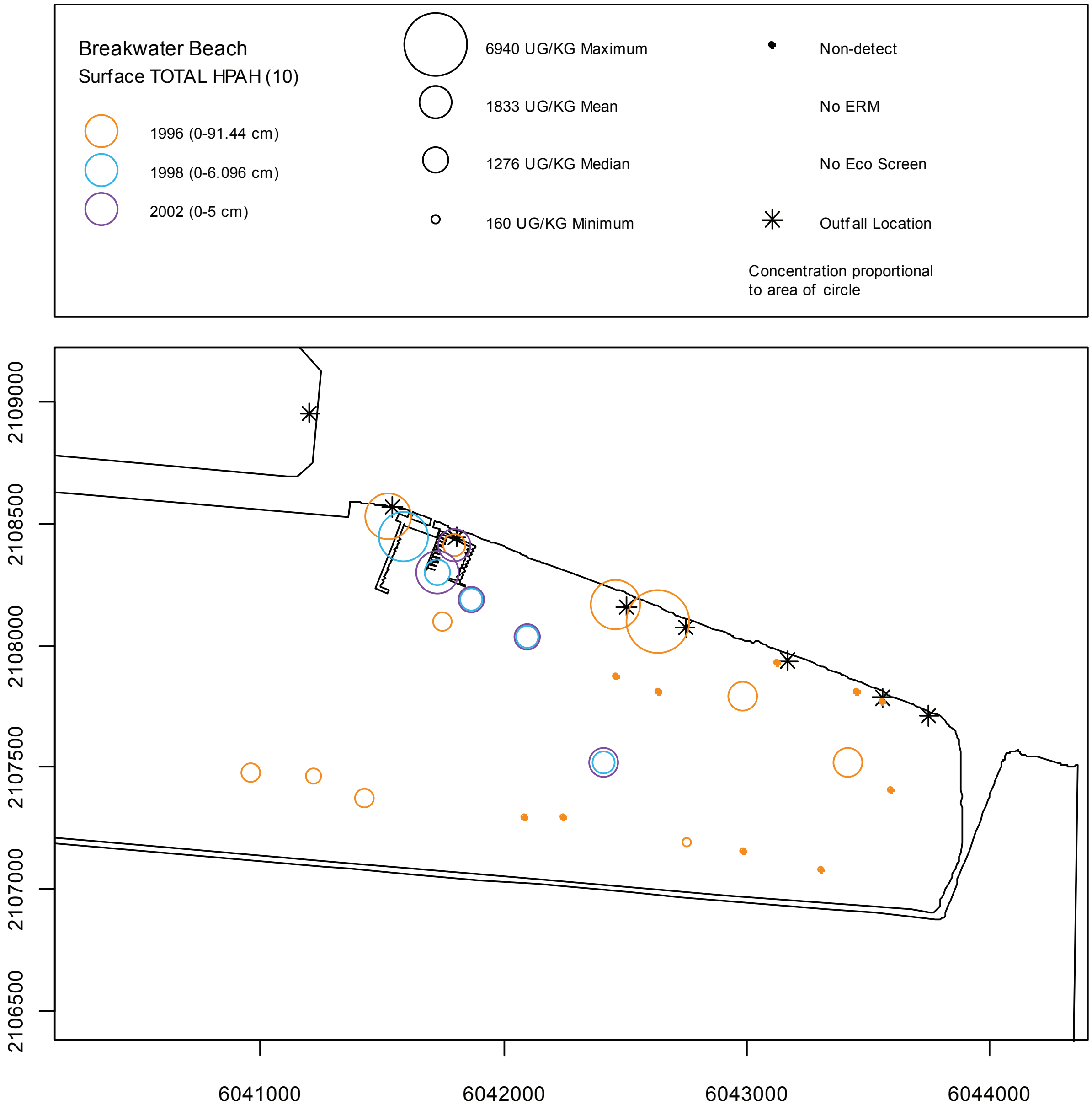


Figure A–398. Bubble Plots of Total HPAH(10) in Breakwater Beach Surface Sediment by Year.

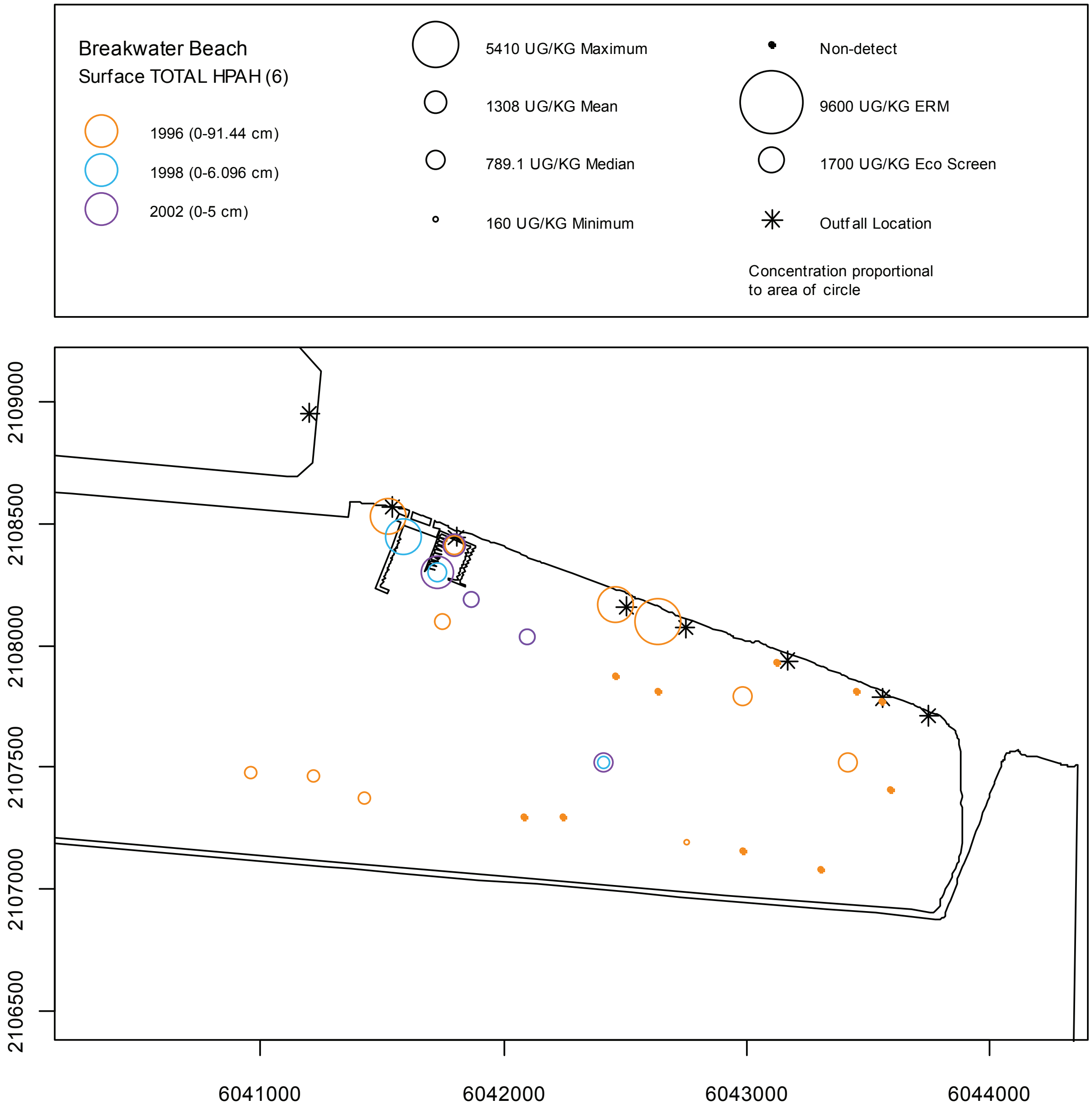


Figure A–399. Bubble Plots of Total HPAH(6) in Breakwater Beach Surface Sediment by Year.

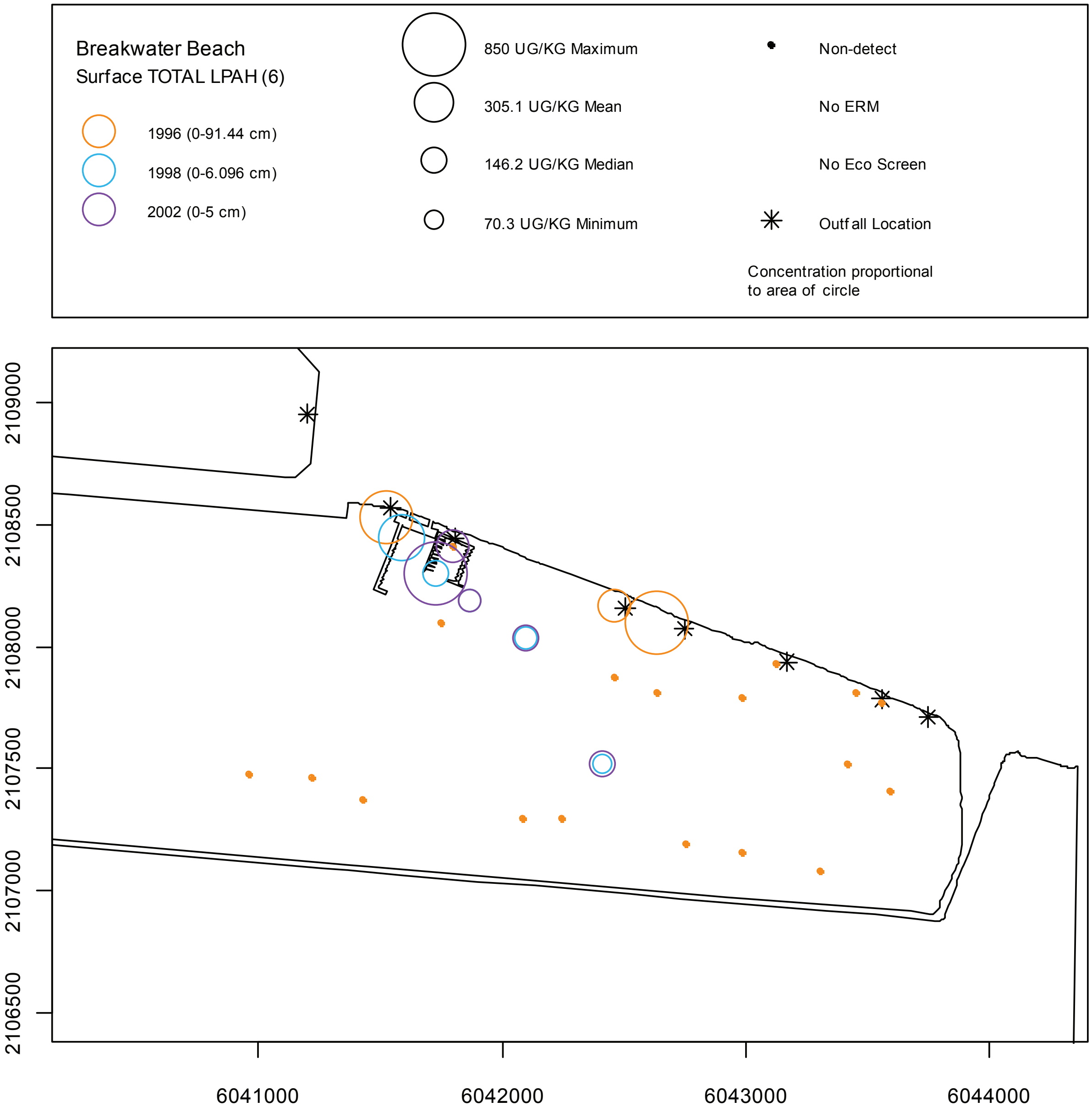


Figure A–400. Bubble Plots of Total LPAH(6) in Breakwater Beach Surface Sediment by Year.

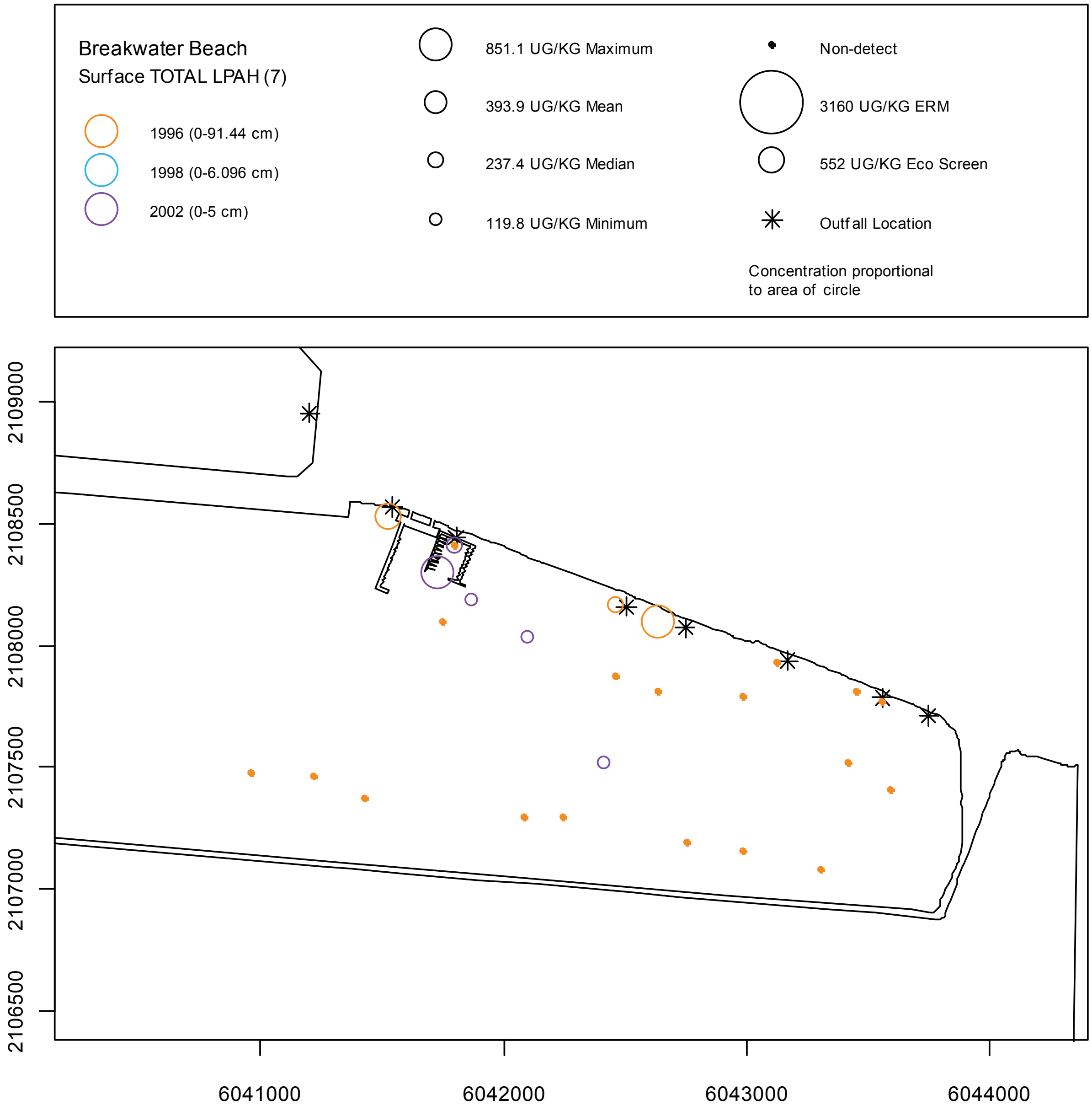


Figure A–401. Bubble Plots of Total LPAH(7) in Breakwater Beach Surface Sediment by Year.

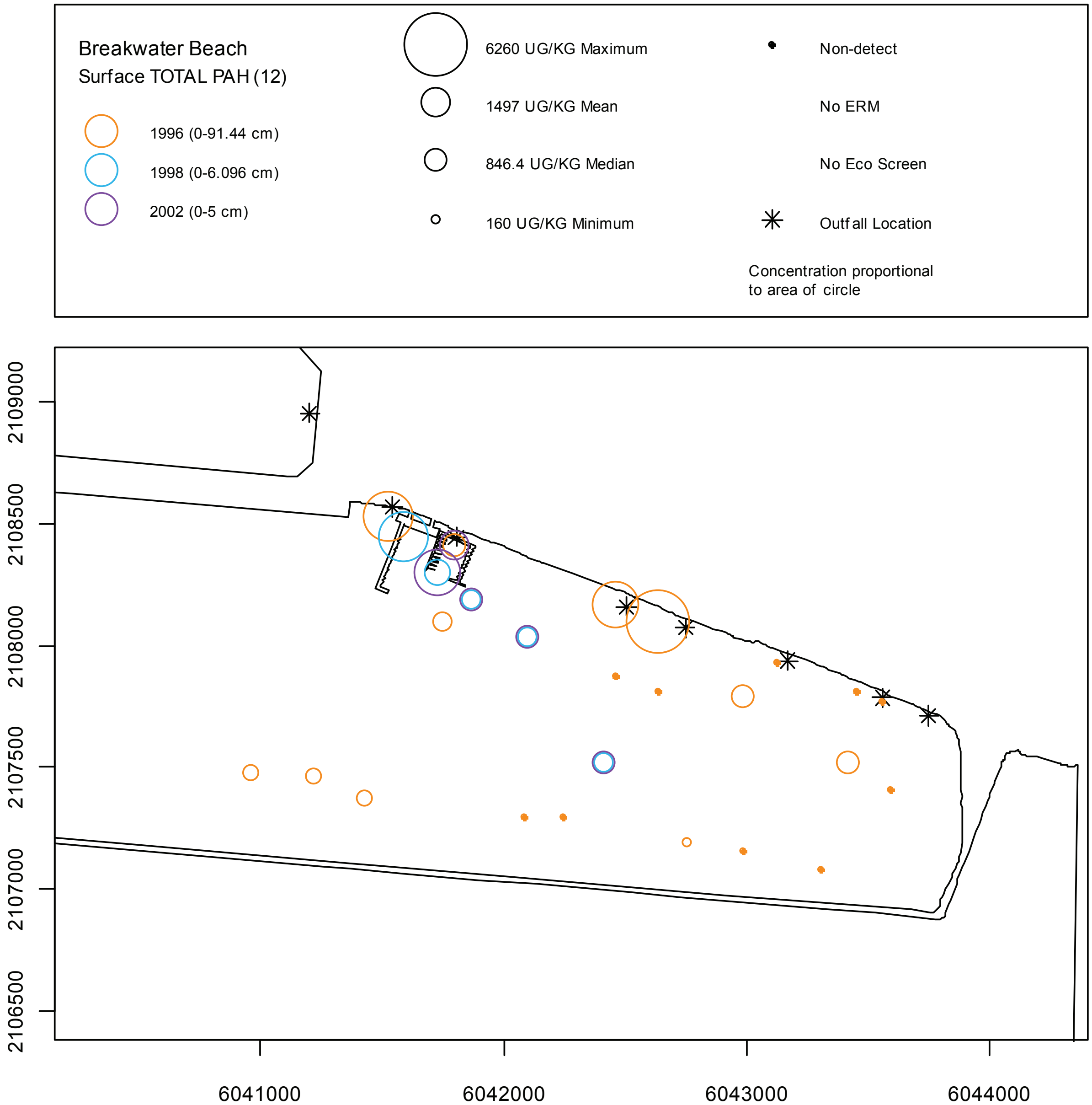


Figure A–402. Bubble Plots of Total PAH(12) in Breakwater Beach Surface Sediment by Year.

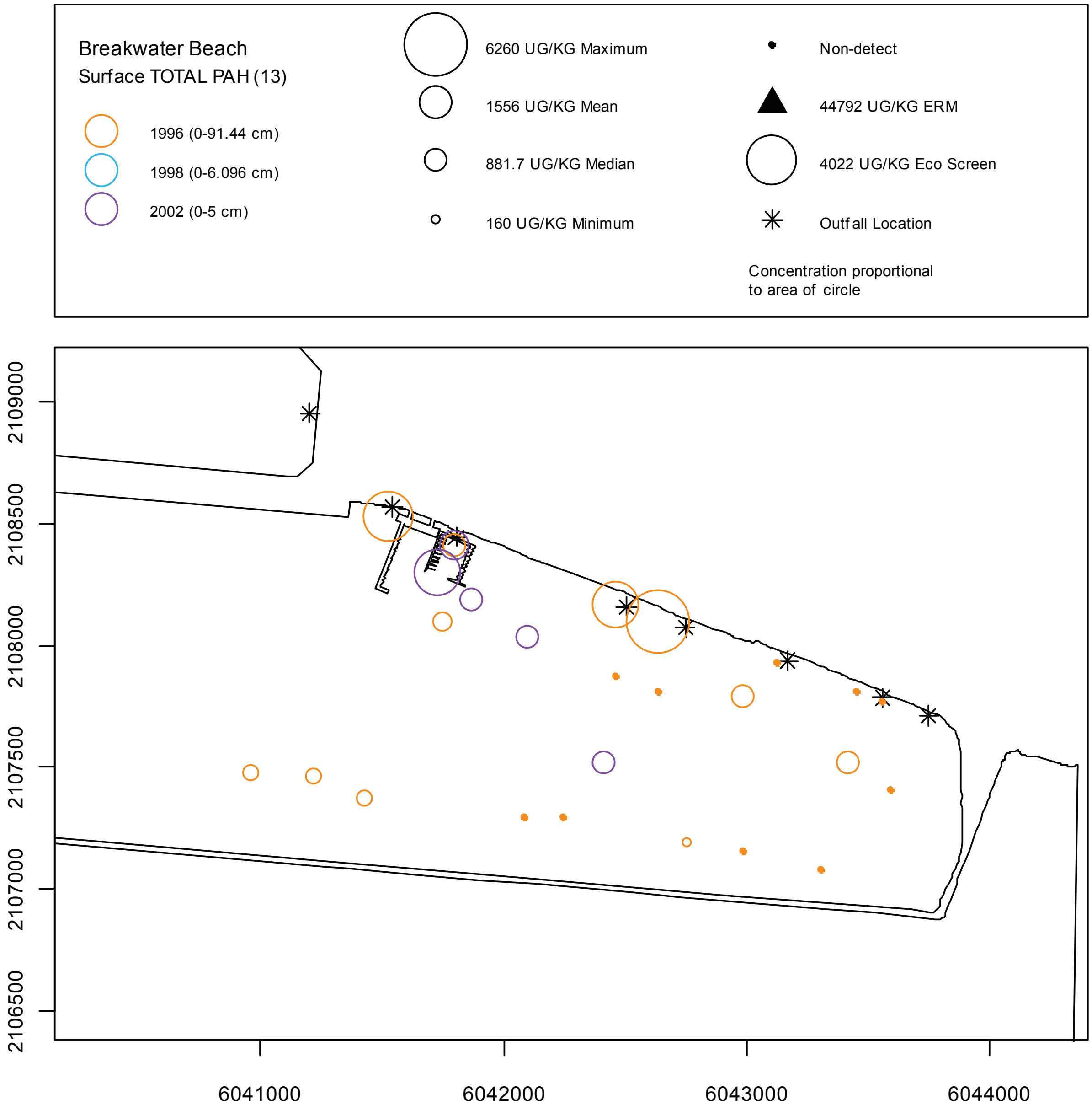


Figure A–403. Bubble Plots of Total PAH(13) in Breakwater Beach Surface Sediment by Year.

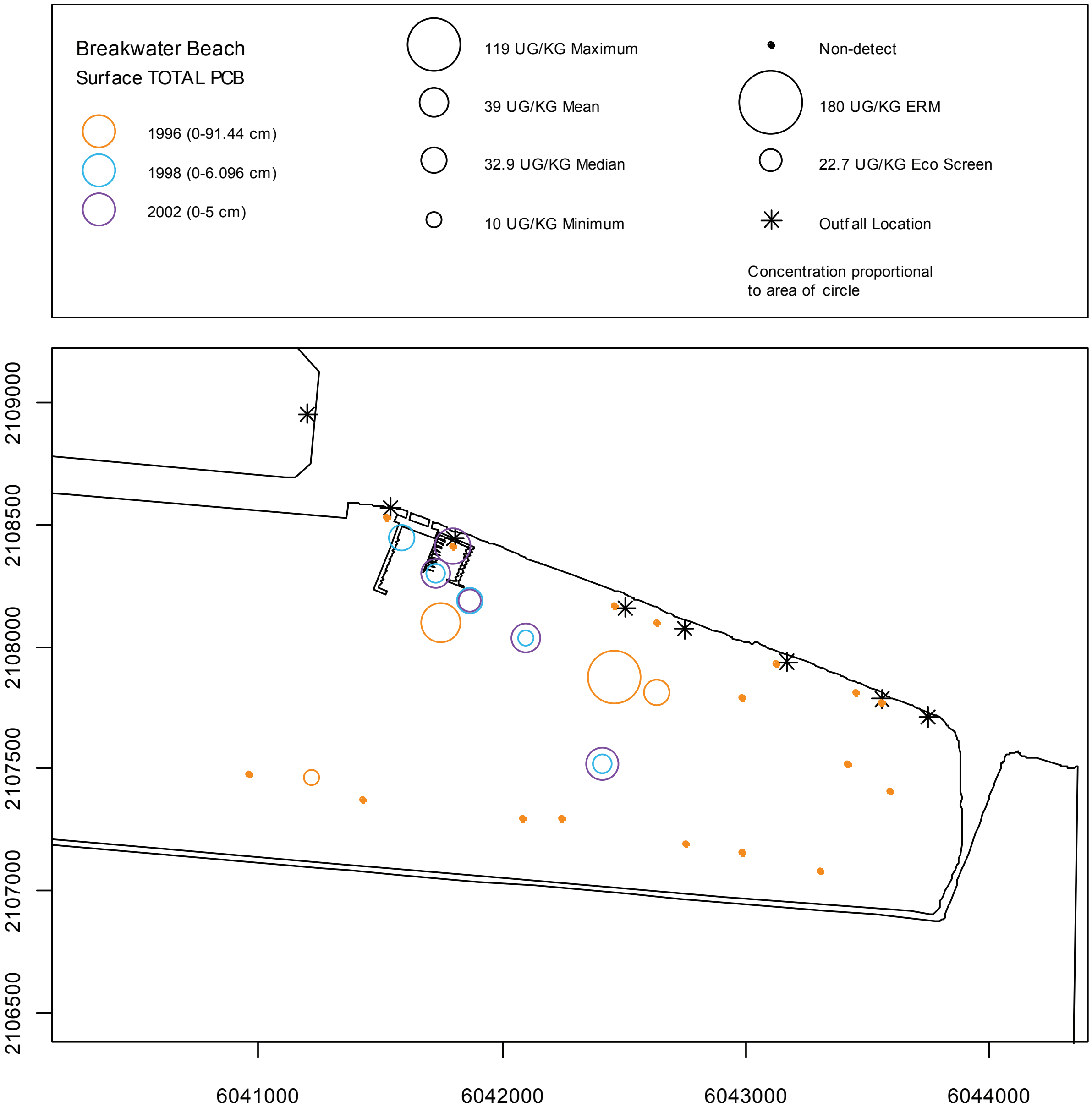


Figure A–404. Bubble Plots of Total PCB in Breakwater Beach Surface Sediment by Year.

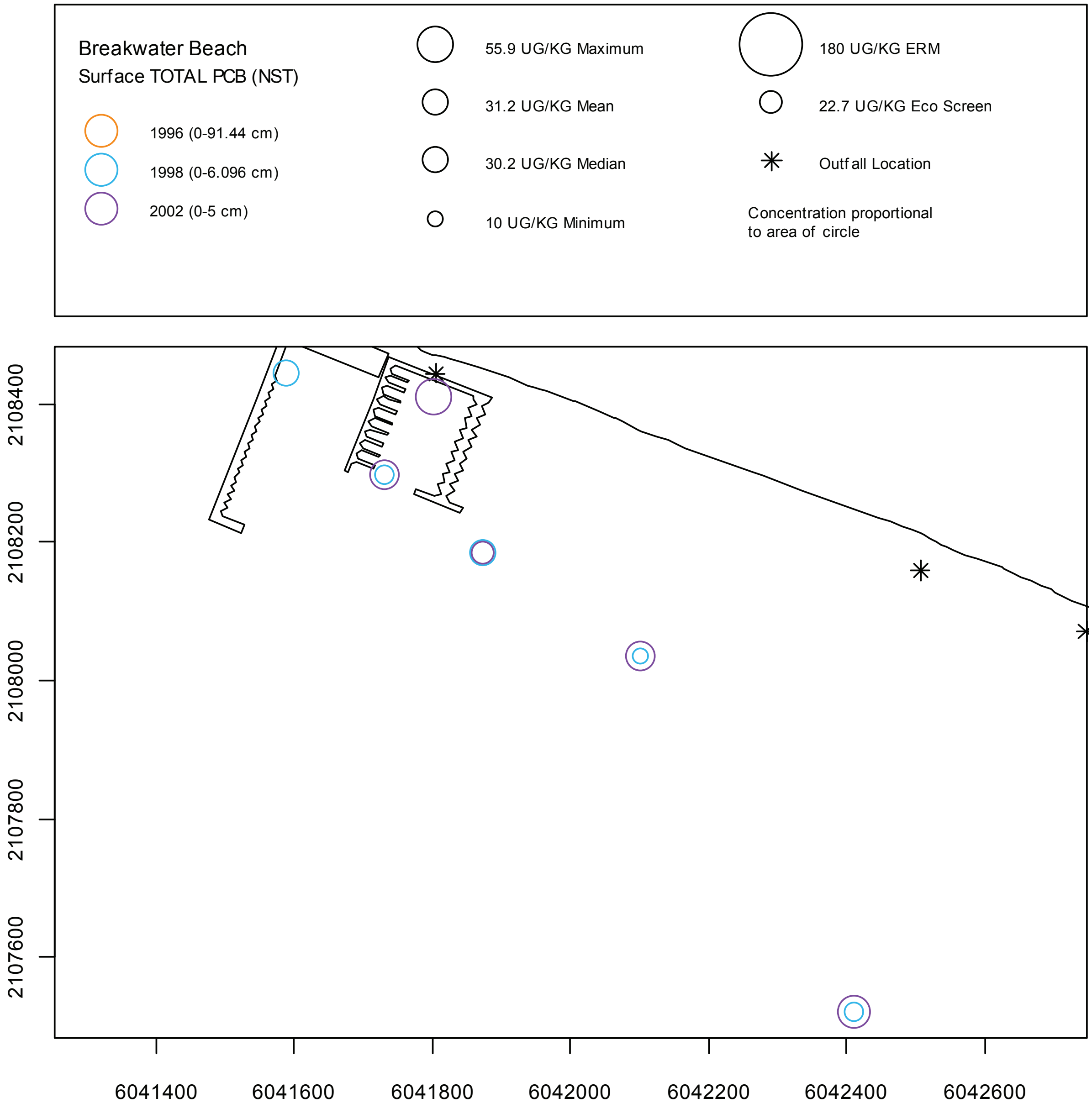


Figure A–405. Bubble Plots of Total PCB (NST) in Breakwater Beach Surface Sediment by Year.

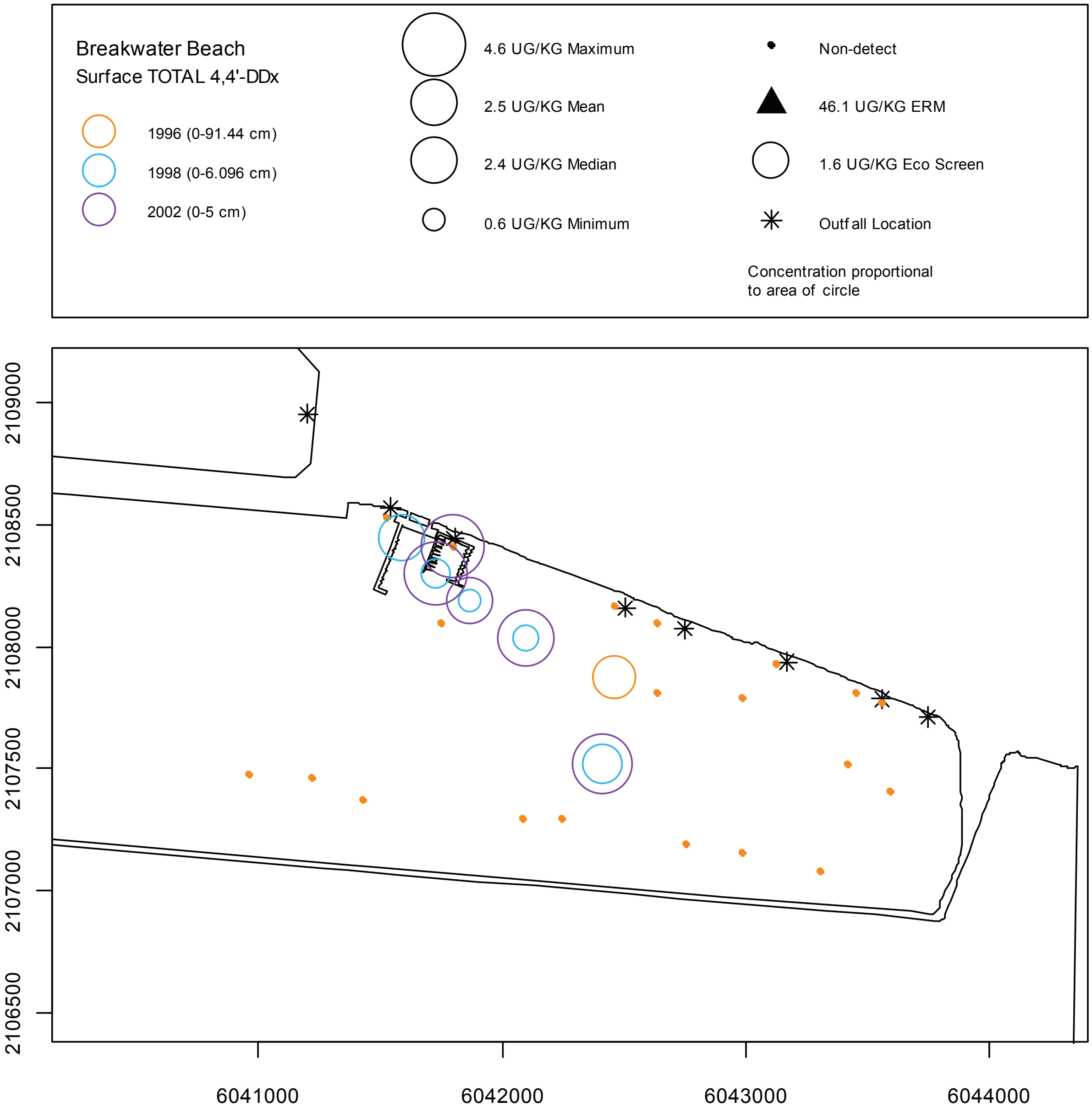


Figure A–406. Bubble Plots of Total 4,4'DDx in Breakwater Beach Surface Sediment by Year.

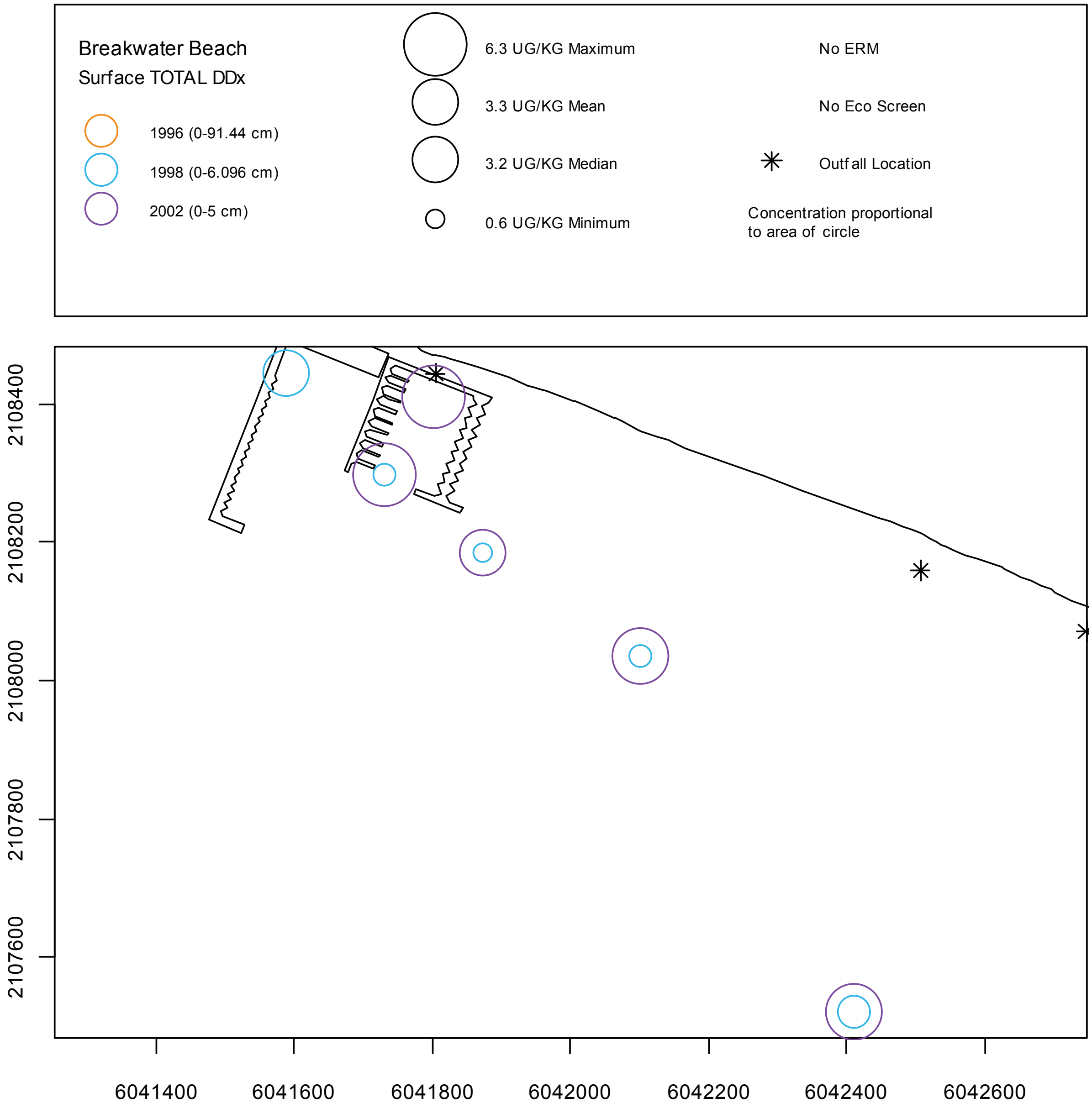


Figure A–407. Bubble Plots of Total DDx in Breakwater Beach Surface Sediment by Year.

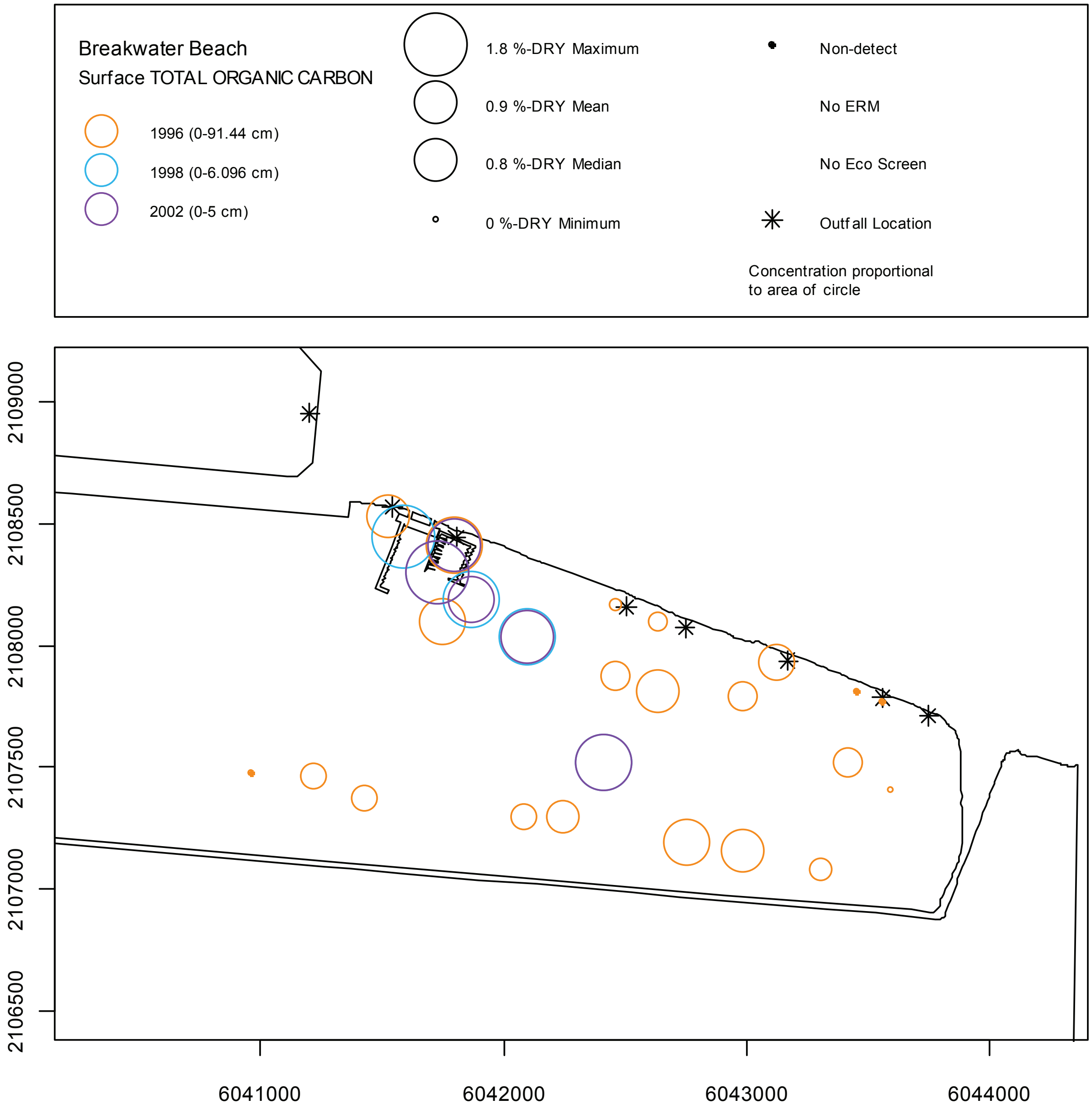


Figure A–408. Bubble Plots of Total Organic Carbon in Breakwater Beach Surface Sediment by Year.

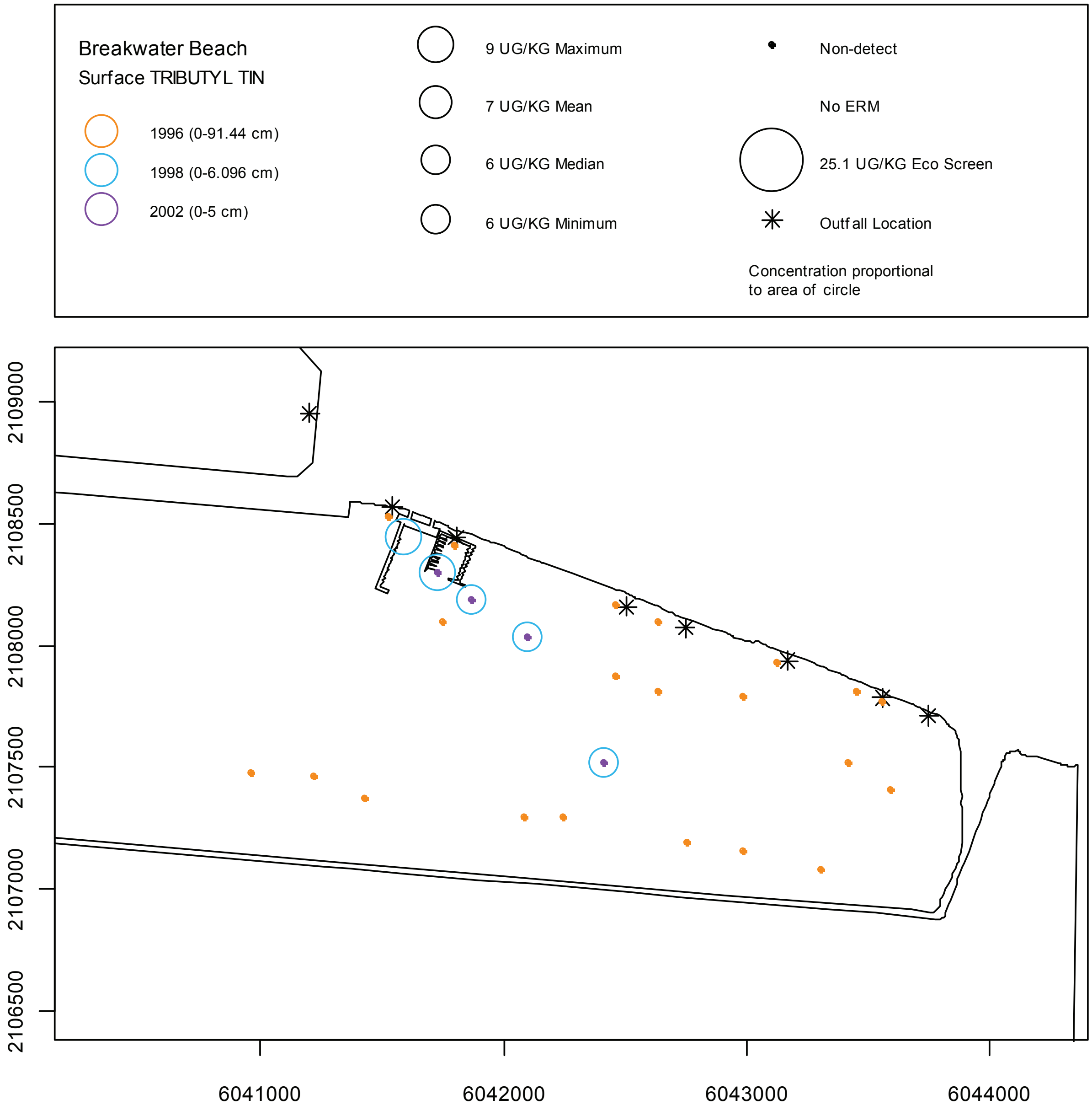


Figure A–409. Bubble Plots of Total Tributyl Tin in Breakwater Beach Surface Sediment by Year.

A.2 Western Bayside and Breakwater Beach Summary of Analytical Data

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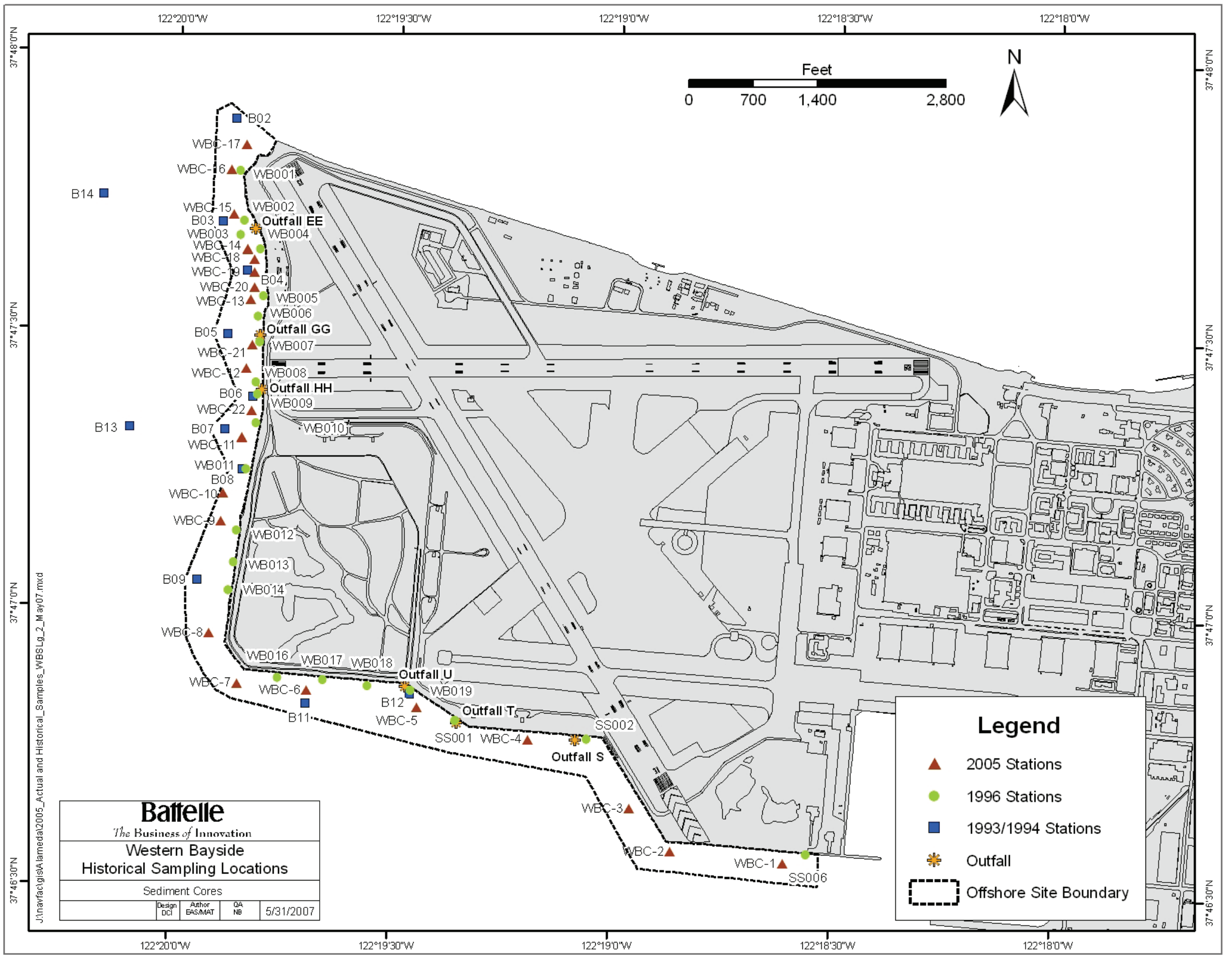

Figure A-421. Western Bayside Sampling Locations

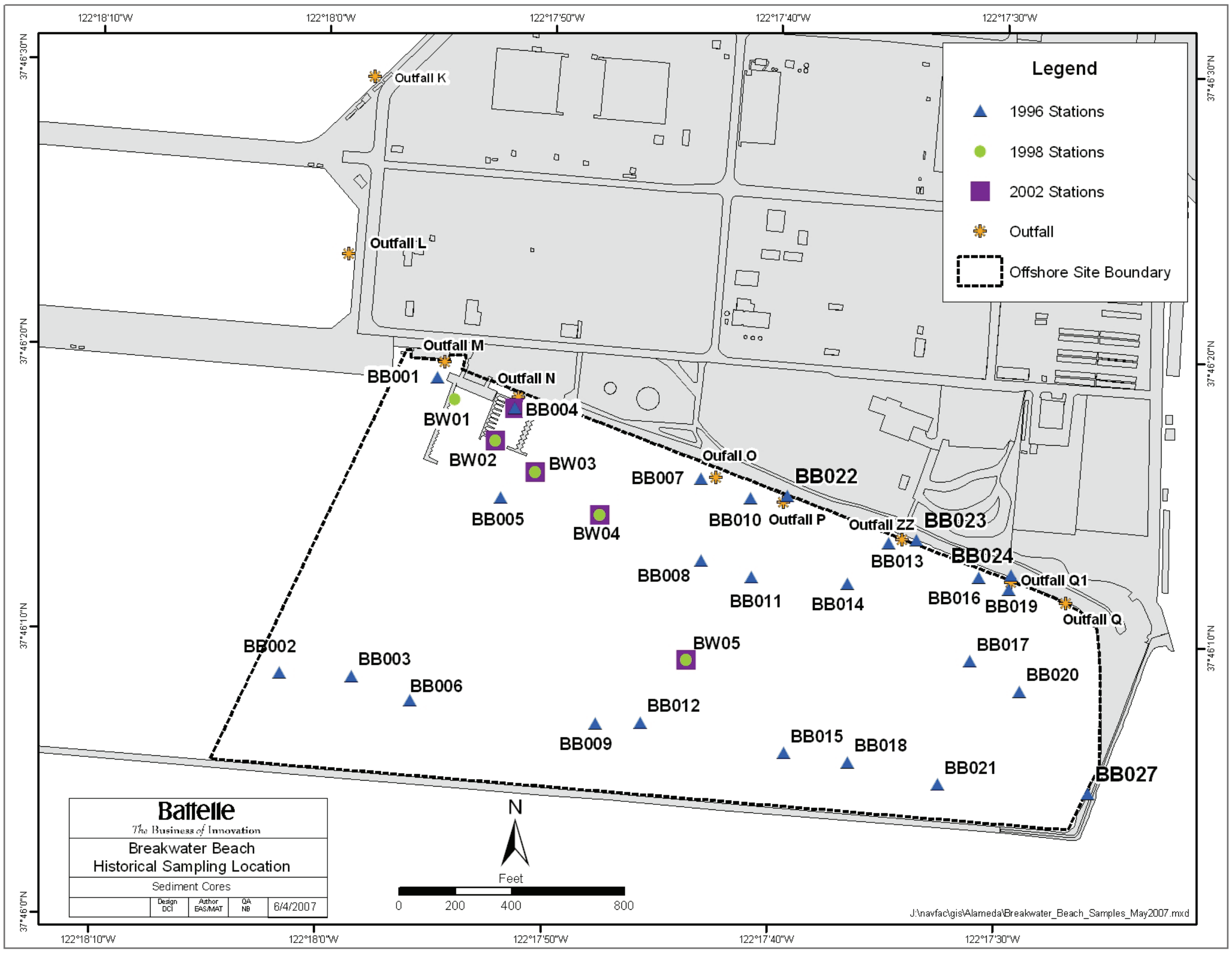

Figure A-422. Breakwater Beach Sampling Locations

Table A-1. Coordinate Data for Sampling Stations at Western Bayside

Year	Station	Longitude (W) (a)	Latitude (N) (a)	X_Coordinate (b)	Y_Coordinate (b)
1993/1994	B02	N/A	N/A	1470920	477777.1
1993/1994	B03	N/A	N/A	1470771	476654.6
1993/1994	B04	N/A	N/A	1471037	476114.1
1993/1994	B05	N/A	N/A	1470827	475426.2
1993/1994	B06	N/A	N/A	1471094	474736.3
1993/1994	B07	N/A	N/A	1470787	474381.8
1993/1994	B08	N/A	N/A	1470984	473948.2
1993/1994	B09	N/A	N/A	1470486	472741.6
1993/1994	B11	N/A	N/A	1471665	471389.3
1993/1994	B12	N/A	N/A	1472808	471483.5
1993/1994	B13	N/A	N/A	1469753	474416.6
1993/1994	B14	N/A	N/A	1469473	476956.8
1996	SS001	N/A	N/A	1473297	471197.2
1996	SS002	N/A	N/A	1474738	470990.7
1996	SS005	N/A	N/A	1479845	468539.4
1996	SS006	N/A	N/A	1477131	469728.0
1996	WB001	N/A	N/A	1470961	477204.5
1996	WB002	N/A	N/A	1471002	476661.0
1996	WB003	N/A	N/A	1470967	476501.5
1996	WB004	N/A	N/A	1471175	476351.7
1996	WB005	N/A	N/A	1471211	475833.9
1996	WB006	N/A	N/A	1471158	475616.4
1996	WB007	N/A	N/A	1471167	475328.5
1996	WB008	N/A	N/A	1471129	474892.3
1996	WB009	N/A	N/A	1471144	474764.5
1996	WB014	N/A	N/A	1470825	472629.3
1996	WB016	N/A	N/A	1471361	471672.0
1996	WB017	N/A	N/A	1471855	471640.5
1996	WB018	N/A	N/A	1472339	471576.4
1996	WB019	N/A	N/A	1472809	471527.2
1996	WB010	N/A	N/A	1471132	474447.0
1996	WB011	N/A	N/A	1471025	473942.3
1996	WB012	N/A	N/A	1470913	473277.8
1996	WB013	N/A	N/A	1470880	472930.4
2005	WBC-1	122.310959	37.775838	N/A	N/A
2005	WBC-2	122.315205	37.776141	N/A	N/A
2005	WBC-3	122.316774	37.777401	N/A	N/A
2005	WBC-4	122.320662	37.779419	N/A	N/A
2005	WBC-5	122.324888	37.780315	N/A	N/A
2005	WBC-6	122.329067	37.780777	N/A	N/A
2005	WBC-7	122.331699	37.780948	N/A	N/A
2005	WBC-8	122.33279	37.782440	N/A	N/A
2005	WBC-9	122.332419	37.785801	N/A	N/A
2005	WBC-10	122.332335	37.786639	N/A	N/A
2005	WBC-11	122.33168	37.788319	N/A	N/A
2005	WBC-12	122.33168	37.790400	N/A	N/A

Year	Station	Longitude (W) (a)	Latitude (N) (a)	X_Coordinate (b)	Y_Coordinate (b)
2005	WBC-13	122.331555	37.792464	N/A	N/A
2005	WBC-14	122.331447	37.793970	N/A	N/A
2005	WBC-15	122.33158	37.795005	N/A	N/A
2005	WBC-16	122.331576	37.796341	N/A	N/A
2005	WBC-17	122.33214	37.797093	N/A	N/A
2005	WBC-18	122.332252	37.793664	N/A	N/A
2005	WBC-19	122.331684	37.793270	N/A	N/A
2005	WBC-20	122.331315	37.792825	N/A	N/A
2005	WBC-21	122.331298	37.791107	N/A	N/A
2005	WBC-22	122.331309	37.789139	N/A	N/A

N/A = not applicable
(a) Coordinate System is Geographic Coordinates (Lat/Long), WGS 1984 Datum
(b) Coordinate System is California State Plane, NAD27 Datum

Table A-2. Coordinate Data for Sampling Stations at Breakwater Beach

Year	Station	Longitude (W) (a)	Latitude (N) (a)	X_Coordinate (b)	Y_Coordinate (b)
1996	BB001	N/A	N/A	1480161	468114.5
1996	BB002	N/A	N/A	1479597	467065.6
1996	BB003	N/A	N/A	1479854	467053.3
1996	BB004	N/A	N/A	1480436	468003.6
1996	BB005	N/A	N/A	1480384	467687.8
1996	BB006	N/A	N/A	1480061	466965.6
1996	BB007	N/A	N/A	1481096	467754.2
1996	BB008	N/A	N/A	1481097	467462.9
1996	BB009	N/A	N/A	1480721	466883.7
1996	BB010	N/A	N/A	1481271	467685.3
1996	BB011	N/A	N/A	1481275	467404.8
1996	BB012	N/A	N/A	1480880	466888
1996	BB013	N/A	N/A	1481763	467522.9
1996	BB014	N/A	N/A	1481615	467380.1
1996	BB015	N/A	N/A	1481390	466779.9
1996	BB016	N/A	N/A	1482084	467400.2
1996	BB017	N/A	N/A	1482053	467105.8
1996	BB018	N/A	N/A	1481618	466746.4
1996	BB019	N/A	N/A	1482190	467358.1
1996	BB020	N/A	N/A	1482227	466996.9
1996	BB021	N/A	N/A	1481937	466667.4
1998	BW01	N/A	N/A	1480223	468036.8
1998	BW02	N/A	N/A	1480365	467888.4
1998	BW03	N/A	N/A	1480507	467776.4
1998	BW04	N/A	N/A	1480736	467626.4
1998	BW05	N/A	N/A	1481044	467110.6
2002	BB004	122.29765	37.77166	N/A	N/A
2002	BW02	122.29789	37.77134	N/A	N/A
2002	BW03	122.29739	37.77104	N/A	N/A
2002	BW04	122.29659	37.77064	N/A	N/A
2002	BW05	122.29549	37.76924	N/A	N/A
2002	BB022	122.294289	37.77086	N/A	N/A
2002	BB023	122.292691	37.77045	N/A	N/A
2002	BB024	122.291517	37.77012	N/A	N/A
2002	BB027	122.290528	37.768	N/A	N/A

N/A = not applicable
(a) Coordinate System is Geographic Coordinates (Lat/Long), NAD83 Datum
(b) Coordinate System is California State Plane, NAD27 Datum

Table A-3. Coordinate Data for Outfalls at Western Bayside and Breakwater Beach

Outfall	X_Coordinate (a)	Y_Coordinate (a)
Outfall EE	1471127	476568.8
Outfall GG	1471176	475404.3
Outfall HH	1471196	474812.2
Outfall S	1474611	470983.4
Outfall T	1473318	471170.9
Outfall U	1472755	471565.6
Outfall M	1480187	468169.6
Outfall N	1480447	468045
Outfall O	1481149	467759.9
Outfall P	1481389	467671.5
Outfall Q	1482392	467312
Outfall Q1	1482199	467385.1
Outfall ZZ	1481812	467538

(a) Coordinate System is California State Plane, NAD27 Datum

Table A–4. Summary Table for Breakwater Beach Sediment Data

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ALDRIN	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	ANTIMONY	0.79	MG/KG	U
1996	BB001	BB	SurfaceLocation	0	76.2	CM	METAL	ANTIMONY	0.98	MG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1221	41	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	390	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1254	11	UG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB001	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	190	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	ARSENIC	2.3	MG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	7.8	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	**YEAR**	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	360	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	230	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	390	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	180	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.36	MG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	CHROMIUM	38.7	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	75.1	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	450	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	COPPER	22.8	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	57.9	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	DIELDRIN	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN	2	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	19	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	1100	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	9.9	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	LEAD	14.7	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	31.8	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	MERCURY	0.1	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.25	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	380	UG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	NICKEL	33.5	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	74	MG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	570	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	PAH HIGH	PYRENE	110	UG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	900	UG/KG	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	SELENIUM	0.77	MG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	1.4	MG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.53	MG/KG	U
1996	BB001	BB	VibraCore	76.2	152.4	CM	TOC	TOTAL ORGANIC CARBON	0.0126	%-DRY	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.786	%-DRY	D
1996	BB001	BB	VibraCore	76.2	152.4	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB001	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	4	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB001	BB	VibraCore	76.2	152.4	CM	METAL	ZINC	82.6	MG/KG	D
1996	BB001	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	139	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	2-METHYLNAPHTHALENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	2-METHYLNAPHTHALENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDD	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDD	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDE	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDE	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDT	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDT	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHYLENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHYLENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ALDRIN	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ALPHA-BHC	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ALPHA-CHLORDANE	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	ANTHRACENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	ANTHRACENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	ANTIMONY	1.2	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	ANTIMONY	0.85	MG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1016	30	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1016	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1221	62	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1221	45	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1232	30	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1232	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1242	30	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1242	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1248	30	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1248	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1254	30	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1254	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1260	30	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1260	22	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	ARSENIC	9.5	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	ARSENIC	3.2	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)ANTHRACENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)ANTHRACENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)PYRENE	180	UG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(B)FLUORANTHENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(K)FLUORANTHENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	CHROMIUM	66.1	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	CHROMIUM	37.7	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	CHRYSENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	CHRYSENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	COPPER	38.7	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	COPPER	11.4	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	DIELDRIN	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	DIELDRIN	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN II	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN II	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN SULFATE	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN SULFATE	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ENDRIN	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN	2.2	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	ENDRIN ALDEHYDE	3	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN ALDEHYDE	2.2	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	FLUORANTHENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	FLUORENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	FLUORENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	GAMMA-BHC	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	GAMMA-CHLORDANE	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR EPOXIDE	1.6	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	LEAD	26.2	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	LEAD	3.3	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	MERCURY	0.35	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	MERCURY	0.03	MG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	NAPHTHALENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	NAPHTHALENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	NICKEL	60.8	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	NICKEL	42.6	MG/KG	D
1996	BB002	BB	VibraCore	0	82.296	CM	PAH LOW	PHENANTHRENE	300	UG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH LOW	PHENANTHRENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	PAH HIGH	PYRENE	210	UG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	PAH HIGH	PYRENE	220	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	SELENIUM	0.83	MG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	SILVER	0.22	MG/KG	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	SILVER	0.16	MG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	TOC	TOTAL ORGANIC CARBON	0.0181	%-DRY	U
1996	BB002	BB	VibraCore	82.296	161.544	CM	TOC	TOTAL ORGANIC CARBON	0.193	%-DRY	D
1996	BB002	BB	VibraCore	0	82.296	CM	TBT	TRIBUTYL TIN	3.1	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB002	BB	VibraCore	82.296	161.544	CM	TBT	TRIBUTYL TIN	2.3	UG/KG	U
1996	BB002	BB	VibraCore	0	82.296	CM	METAL	ZINC	108	MG/KG	D
1996	BB002	BB	VibraCore	82.296	161.544	CM	METAL	ZINC	40.8	MG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	2-METHYLNAPHTHALENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDD	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDE	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDT	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHYLENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ALDRIN	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	ANTHRACENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	ANTIMONY	1	MG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	ANTIMONY	0.93	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1016	27	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1221	54	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1221	41	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1232	27	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1242	27	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1248	27	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1254	14	UG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1260	27	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	ARSENIC	6.7	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	ARSENIC	3.9	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)ANTHRACENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)PYRENE	150	UG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(K)FLUORANTHENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	CADMIUM	0.09	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	CHROMIUM	48.9	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	CHROMIUM	45.3	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	CHRYSENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	COPPER	27.7	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	COPPER	11.4	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	DIELDRIN	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	DIELDRIN	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN II	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN SULFATE	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ENDRIN	2.7	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	ENDRIN ALDEHYDE	2.7	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	FLUORANTHENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	FLUORENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	LEAD	19.5	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	LEAD	4.2	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	MERCURY	0.28	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	MERCURY	0.02	MG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	NAPHTHALENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	NICKEL	45	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	NICKEL	53.2	MG/KG	D
1996	BB003	BB	VibraCore	0	82.296	CM	PAH LOW	PHENANTHRENE	270	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	PAH HIGH	PYRENE	200	UG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	SELENIUM	1	MG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	SELENIUM	0.76	MG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	SILVER	0.36	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	TOC	TOTAL ORGANIC CARBON	0.302	%-DRY	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	TOC	TOTAL ORGANIC CARBON	0.0125	%-DRY	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB003	BB	VibraCore	0	82.296	CM	TBT	TRIBUTYL TIN	2.8	UG/KG	U
1996	BB003	BB	VibraCore	82.296	161.544	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB003	BB	VibraCore	0	82.296	CM	METAL	ZINC	82.1	MG/KG	D
1996	BB003	BB	VibraCore	82.296	161.544	CM	METAL	ZINC	44.3	MG/KG	U
2002	BB004	BB	grab	0	5	CM	DDT 24	2,4'-DDD	1.0685	UG/KG	D
2002	BB004	BB	grab	0	5	CM	DDT 24	2,4'-DDE	0.144	UG/KG	U
2002	BB004	BB	grab	0	5	CM	DDT 24	2,4'-DDT	0.226	UG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	10.8	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	2-METHYLNAPHTHALENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	DDT 44	4,4'-DDD	1.57	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDD	4	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	DDT 44	4,4'-DDE	1.38	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDE	8.4	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	DDT 44	4,4'-DDT	1.61	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDT	5.7	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH LOW	ACENAPHTHENE	11.7	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	ACENAPHTHENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH LOW	ACENAPHTHYLENE	8.85	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	ACENAPHTHYLENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ALDRIN	0.0679	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ALDRIN	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ALPHA-BHC	0.0578	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ALPHA-BHC	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ALPHA-CHLORDANE	0.1557	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ALPHA-CHLORDANE	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH LOW	ANTHRACENE	62.8	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	ANTHRACENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	ANTIMONY	0.56	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	ANTIMONY	1.6	MG/KG	U
1996	BB004	BB	SurfaceLocation	0	85.344	CM	METAL	ANTIMONY	1.8	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1016	40	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	260	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1221	82	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	520	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1232	40	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	260	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1242	40	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	260	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1248	40	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	260	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1254	110	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	260	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1260	100	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	260	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	ARSENIC	7.1	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	ARSENIC	10.7	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	10.6	MG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	138	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(A)ANTHRACENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	BENZO(A)PYRENE	201	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(A)PYRENE	290	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	231	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(B)FLUORANTHENE	500	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	144	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	191	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(K)FLUORANTHENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	CADMIUM	0.456	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	CADMIUM	0.1	MG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.24	MG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	CHROMIUM	142	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	CHROMIUM	120	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	99	MG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH HIGH	CHRYSENE	249	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	CHRYSENE	300	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	COPPER	41.5	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	COPPER	77.6	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	77.2	MG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	24.6	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	DIELDRIN	0.622	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	DIELDRIN	4	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ENDOSULFAN I	0.110	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN I	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ENDOSULFAN II	0.107	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN II	4	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ENDOSULFAN SULFATE	0.112	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN SULFATE	4	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ENDRIN	0.0947	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ENDRIN	4	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	26	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	ENDRIN ALDEHYDE	0.155	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	ENDRIN ALDEHYDE	3.7	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	26	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BB004	BB	grab	0	5	CM	PAH HIGH	FLUORANTHENE	323	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	FLUORANTHENE	770	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	460	UG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH LOW	FLUORENE	20.5	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	FLUORENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	GAMMA-BHC	0.0701	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	GAMMA-BHC	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	GAMMA-CHLORDANE	1.11	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	GAMMA-CHLORDANE	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	HEPTACHLOR	0.0888	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	HEPTACHLOR	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.0819	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	PEST	HEPTACHLOR EPOXIDE	2.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	13	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	160	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	LEAD	24.7	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	LEAD	65	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	41	MG/KG	D
2002	BB004	BB	grab	0	5	CM	METAL	MERCURY	0.232	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	MERCURY	0.71	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.36	MG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH LOW	NAPHTHALENE	16.7	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	NAPHTHALENE	400	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	NICKEL	65.7	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	NICKEL	93.8	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	99	MG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB101	1.83	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB105	0.637	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BB004	BB	grab	0	5	CM	CON	PCB110	1.91	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB118	1.64	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB126	0.16	UG/KG	U
2002	BB004	BB	grab	0	5	CM	CON	PCB128	0.51	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB129	0.06	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB138	4.20	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB153	5.42	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB170	2.69	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB18	0.45	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB180	4.16	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB187	2.23	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB195	0.44	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB206	0.25	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB209	0.39	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB28	0.61	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB44	0.43	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB52	0.65	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB66	1.13	UG/KG	D
2002	BB004	BB	grab	0	5	CM	CON	PCB77	0.18	UG/KG	U
2002	BB004	BB	grab	0	5	CM	CON	PCB8	0.30	UG/KG	D
2002	BB004	BB	grab	0	5	CM	PAH LOW	PHENANTHRENE	93.4	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH LOW	PHENANTHRENE	820	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	520	UG/KG	U
2002	BB004	BB	grab	0	5	CM	PAH HIGH	PYRENE	333	UG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	PAH HIGH	PYRENE	1100	UG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	360	UG/KG	D
2002	BB004	BB	grab	0	5	CM	METAL	SELENIUM	0.645	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	SELENIUM	1.5	MG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	1.9	MG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	SILVER	0.56	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	SILVER	1.2	MG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.53	MG/KG	U
2002	BB004	BB	grab	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.32	PCTwt	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	TOC	TOTAL ORGANIC CARBON	1.12	%-DRY	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	1.35	%-DRY	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BB004	BB	grab	0	5	CM	TBT	TRIBUTYL TIN	6.10	UG/KG	U
1996	BB004	BB	VibraCore	85.344	173.736	CM	TBT	TRIBUTYL TIN	4.1	UG/KG	U
1996	BB004	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
2002	BB004	BB	grab	0	5	CM	METAL	ZINC	105	MG/KG	D
1996	BB004	BB	VibraCore	85.344	173.736	CM	METAL	ZINC	198	MG/KG	D
1996	BB004	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	210	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	2-METHYLNAPHTHALENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	2-METHYLNAPHTHALENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDD	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDD	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDE	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDE	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDT	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDT	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHYLENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHYLENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ALDRIN	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ALDRIN	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ALPHA-BHC	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-BHC	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ALPHA-CHLORDANE	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-CHLORDANE	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	ANTHRACENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	ANTHRACENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	ANTIMONY	1.5	MG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	ANTIMONY	1.9	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1016	38	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1016	35	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1221	76	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1221	71	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1232	38	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1232	35	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1242	38	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1242	35	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1248	38	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1248	35	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1254	31	UG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1254	29	UG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1260	34	UG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1260	28	UG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	ARSENIC	11.9	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	ARSENIC	10.5	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)ANTHRACENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(B)FLUORANTHENE	240	UG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(K)FLUORANTHENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	CADMIUM	0.09	MG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	CADMIUM	0.09	MG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	CHROMIUM	101	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	CHROMIUM	103	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	CHRYSENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	CHRYSENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	COPPER	66.8	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	COPPER	67.2	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	DIELDRIN	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	DIELDRIN	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN I	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN I	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN II	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN II	3.5	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN SULFATE	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN SULFATE	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ENDRIN	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	ENDRIN ALDEHYDE	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN ALDEHYDE	3.5	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	FLUORANTHENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	FLUORANTHENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	FLUORENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	FLUORENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	GAMMA-BHC	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-BHC	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	GAMMA-CHLORDANE	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-CHLORDANE	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR EPOXIDE	1.9	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR EPOXIDE	1.8	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	LEAD	41.8	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	LEAD	49.9	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	MERCURY	0.26	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	MERCURY	0.22	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	NAPHTHALENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	NAPHTHALENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	NICKEL	90	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	NICKEL	84.6	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	PAH LOW	PHENANTHRENE	380	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH LOW	PHENANTHRENE	350	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	PAH HIGH	PYRENE	330	UG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	PAH HIGH	PYRENE	330	UG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	SELENIUM	1.4	MG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	SELENIUM	1.3	MG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	SILVER	0.53	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	SILVER	0.92	MG/KG	D
1996	BB005	BB	VibraCore	0	76.2	CM	TOC	TOTAL ORGANIC CARBON	0.944	%-DRY	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	TOC	TOTAL ORGANIC CARBON	0.925	%-DRY	D
1996	BB005	BB	VibraCore	0	76.2	CM	TBT	TRIBUTYL TIN	3.8	UG/KG	U
1996	BB005	BB	VibraCore	76.2	152.4	CM	TBT	TRIBUTYL TIN	3.7	UG/KG	U
1996	BB005	BB	VibraCore	0	76.2	CM	METAL	ZINC	173	MG/KG	D
1996	BB005	BB	VibraCore	76.2	152.4	CM	METAL	ZINC	169	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	2-METHYLNAPHTHALENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDD	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDE	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDT	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHYLENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	ANTHRACENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	ANTHRACENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	ANTIMONY	1.4	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	ANTIMONY	0.8	MG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1016	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1221	57	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1232	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1242	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1248	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1254	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1260	28	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	ARSENIC	7.4	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	ARSENIC	4.5	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)ANTHRACENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)ANTHRACENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)PYRENE	170	UG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)PYRENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	170	UG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(K)FLUORANTHENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	CADMIUM	0.13	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	CHROMIUM	51.6	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	CHROMIUM	41.6	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	CHRYSENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	CHRYSENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	COPPER	31.4	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	COPPER	11	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	DIELDRIN	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN II	2.8	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN SULFATE	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ENDRIN	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	ENDRIN ALDEHYDE	2.8	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	FLUORENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	LEAD	21.9	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	LEAD	4.1	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	MERCURY	0.25	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	MERCURY	0.02	MG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	NAPHTHALENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	NICKEL	49.2	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	NICKEL	44.5	MG/KG	D
1996	BB006	BB	VibraCore	0	82.296	CM	PAH LOW	PHENANTHRENE	280	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH LOW	PHENANTHRENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	PAH HIGH	PYRENE	190	UG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	PAH HIGH	PYRENE	210	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	SELENIUM	0.78	MG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	SILVER	0.25	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	TOC	TOTAL ORGANIC CARBON	0.333	%-DRY	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	TOC	TOTAL ORGANIC CARBON	0.0124	%-DRY	U
1996	BB006	BB	VibraCore	0	82.296	CM	TBT	TRIBUTYL TIN	2.7	UG/KG	U
1996	BB006	BB	VibraCore	82.296	161.544	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB006	BB	VibraCore	0	82.296	CM	METAL	ZINC	88.9	MG/KG	D
1996	BB006	BB	VibraCore	82.296	161.544	CM	METAL	ZINC	51.6	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	ANTHRACENE	110	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	ANTIMONY	0.83	MG/KG	U
1996	BB007	BB	SurfaceLocation	0	82.296	CM	METAL	ANTIMONY	0.95	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1221	44	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	260	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	130	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	ARSENIC	3.7	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	5.2	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)ANTHRACENE	270	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	330	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)PYRENE	380	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	520	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(B)FLUORANTHENE	500	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	590	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	170	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	140	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(K)FLUORANTHENE	160	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.06	MG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	CHROMIUM	34.5	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	43.9	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	CHRYSENE	290	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	350	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	COPPER	10.2	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	19.1	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	6.5	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	13	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	FLUORANTHENE	640	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	470	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	6.5	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	140	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	130	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	LEAD	7.1	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	17.9	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	MERCURY	0.03	MG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.15	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	250	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	NICKEL	33.4	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	39.1	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH LOW	PHENANTHRENE	440	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	250	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	PAH HIGH	PYRENE	900	UG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	1300	UG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	SELENIUM	0.8	MG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	0.95	MG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	SILVER	0.16	MG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	2.5	MG/KG	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	TOC	TOTAL ORGANIC CARBON	0.0127	%-DRY	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.0842	%-DRY	D
1996	BB007	BB	VibraCore	82.296	161.544	CM	TBT	TRIBUTYL TIN	2.2	UG/KG	U
1996	BB007	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	2	UG/KG	U
1996	BB007	BB	VibraCore	82.296	161.544	CM	METAL	ZINC	36.6	MG/KG	D
1996	BB007	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	80	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	2-METHYLNAPHTHALENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	2-METHYLNAPHTHALENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDD	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDD	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDE	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDE	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDT	2.1	UG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDT	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHYLENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHYLENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ALDRIN	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ALPHA-BHC	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ALPHA-CHLORDANE	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	ANTHRACENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	ANTHRACENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	ANTIMONY	1.6	MG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	ANTIMONY	1.1	MG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1016	41	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1016	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1221	84	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1221	56	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1232	41	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1232	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1242	41	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1242	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1248	41	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1248	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1254	63	UG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1254	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1260	56	UG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1260	28	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	ARSENIC	10.8	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	ARSENIC	6.5	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)ANTHRACENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)PYRENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)PYRENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(B)FLUORANTHENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(K)FLUORANTHENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	CADMIUM	0.1	MG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	CHROMIUM	103	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	CHROMIUM	58.4	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	CHRYSENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	CHRYSENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	COPPER	68.9	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	COPPER	21.1	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	DIELDRIN	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	DIELDRIN	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN I	2.1	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN II	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN II	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN SULFATE	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN SULFATE	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ENDRIN	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	ENDRIN ALDEHYDE	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN ALDEHYDE	2.8	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	FLUORANTHENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	FLUORENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	FLUORENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	GAMMA-BHC	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	GAMMA-CHLORDANE	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR EPOXIDE	2.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	LEAD	48.9	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	LEAD	12.5	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	MERCURY	0.66	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	MERCURY	0.03	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	NAPHTHALENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	NAPHTHALENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	NICKEL	87.6	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	NICKEL	53.4	MG/KG	D
1996	BB008	BB	VibraCore	0	76.2	CM	PAH LOW	PHENANTHRENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH LOW	PHENANTHRENE	280	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	PAH HIGH	PYRENE	410	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	PAH HIGH	PYRENE	280	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	SELENIUM	1.5	MG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	SELENIUM	1	MG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	SILVER	0.95	MG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	SILVER	0.2	MG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	TOC	TOTAL ORGANIC CARBON	0.388	%-DRY	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	TOC	TOTAL ORGANIC CARBON	0.252	%-DRY	D
1996	BB008	BB	VibraCore	0	76.2	CM	TBT	TRIBUTYL TIN	4.1	UG/KG	U
1996	BB008	BB	VibraCore	76.2	152.4	CM	TBT	TRIBUTYL TIN	2.9	UG/KG	U
1996	BB008	BB	VibraCore	0	76.2	CM	METAL	ZINC	168	MG/KG	D
1996	BB008	BB	VibraCore	76.2	152.4	CM	METAL	ZINC	66.5	MG/KG	D
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	2-METHYLNAPHTHALENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDD	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDE	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDT	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHYLENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	ANTHRACENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	ANTHRACENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	ANTIMONY	1.3	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	ANTIMONY	0.8	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1016	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1221	56	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1232	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1242	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1248	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1254	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1260	28	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	ARSENIC	6.8	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	ARSENIC	2.6	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)ANTHRACENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(A)ANTHRACENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)PYRENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(A)PYRENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(B)FLUORANTHENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(K)FLUORANTHENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	CHROMIUM	39.7	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	CHROMIUM	37.6	MG/KG	D
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	CHRYSENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	CHRYSENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	COPPER	22.1	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	COPPER	6.7	MG/KG	D
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	DIELDRIN	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	DIELDRIN	2.1	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN II	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN SULFATE	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ENDRIN	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	ENDRIN ALDEHYDE	2.8	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	FLUORENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	LEAD	10.8	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	LEAD	3.1	MG/KG	D
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	MERCURY	0.18	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	MERCURY	0.02	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	NAPHTHALENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	NICKEL	36	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	NICKEL	35.8	MG/KG	D
1996	BB009	BB	VibraCore	0	79.248	CM	PAH LOW	PHENANTHRENE	280	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH LOW	PHENANTHRENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	PAH HIGH	PYRENE	280	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB009	BB	VibraCore	79.248	158.496	CM	PAH HIGH	PYRENE	210	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	SELENIUM	1	MG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	SELENIUM	0.77	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	SILVER	0.2	MG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	TOC	TOTAL ORGANIC CARBON	0.286	%-DRY	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	TOC	TOTAL ORGANIC CARBON	0.0125	%-DRY	U
1996	BB009	BB	VibraCore	0	79.248	CM	TBT	TRIBUTYL TIN	2.7	UG/KG	U
1996	BB009	BB	VibraCore	79.248	158.496	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB009	BB	VibraCore	0	79.248	CM	METAL	ZINC	64	MG/KG	D
1996	BB009	BB	VibraCore	79.248	158.496	CM	METAL	ZINC	30.6	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	ANTHRACENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	260	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	ANTIMONY	0.8	MG/KG	U
1996	BB010	BB	SurfaceLocation	0	85.344	CM	METAL	ANTIMONY	0.92	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	130	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	130	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	130	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	130	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	130	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	130	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	ARSENIC	2.9	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	7.5	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)ANTHRACENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	580	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)PYRENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	660	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	820	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	190	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	330	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.18	MG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	CHROMIUM	31.5	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	58.4	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	CHRYSENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	670	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	COPPER	12.2	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	31.3	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	DIELDRIN	2.1	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	13	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	1600	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	6.8	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	190	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	LEAD	3.2	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	24.7	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	MERCURY	0.03	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.19	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	270	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	NICKEL	36.6	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	49.6	MG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH LOW	PHENANTHRENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	590	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB010	BB	VibraCore	85.344	167.64	CM	PAH HIGH	PYRENE	210	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	1900	UG/KG	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	SELENIUM	0.77	MG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	1	MG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.19	MG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	TOC	TOTAL ORGANIC CARBON	0.0125	%-DRY	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.171	%-DRY	D
1996	BB010	BB	VibraCore	85.344	167.64	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB010	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	3	UG/KG	U
1996	BB010	BB	VibraCore	85.344	167.64	CM	METAL	ZINC	29.4	MG/KG	D
1996	BB010	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	98.1	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	2-METHYLNAPHTHALENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	2-METHYLNAPHTHALENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDD	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDD	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDE	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDT	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDT	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHYLENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHYLENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ALDRIN	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ALPHA-BHC	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ALPHA-CHLORDANE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	ANTHRACENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	ANTHRACENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	ANTIMONY	1.6	MG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	ANTIMONY	0.85	MG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1016	42	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1016	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1221	86	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1221	45	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1232	42	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1232	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1242	42	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1242	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1248	42	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1248	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1254	35	UG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1254	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1260	42	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1260	22	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	ARSENIC	11.8	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	ARSENIC	4.2	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)ANTHRACENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)PYRENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(B)FLUORANTHENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	CADMIUM	0.1	MG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	CHROMIUM	111	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	CHROMIUM	49.6	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	CHRYSENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	CHRYSENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	COPPER	65.5	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	COPPER	12.5	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	220	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	DIELDRIN	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	DIELDRIN	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN I	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN II	6.9	UG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN II	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN SULFATE	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN SULFATE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ENDRIN	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	ENDRIN ALDEHYDE	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN ALDEHYDE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	FLUORANTHENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	FLUORENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	FLUORENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	GAMMA-BHC	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	GAMMA-CHLORDANE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR EPOXIDE	2.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	LEAD	48.1	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	LEAD	5.3	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	MERCURY	0.58	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	MERCURY	0.03	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	NAPHTHALENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	NAPHTHALENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	NICKEL	95.3	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	NICKEL	45.5	MG/KG	D
1996	BB011	BB	VibraCore	0	76.2	CM	PAH LOW	PHENANTHRENE	420	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH LOW	PHENANTHRENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	PAH HIGH	PYRENE	420	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	PAH HIGH	PYRENE	220	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	SELENIUM	1.6	MG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	SELENIUM	0.83	MG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	SILVER	0.58	MG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	SILVER	0.16	MG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	TOC	TOTAL ORGANIC CARBON	0.875	%-DRY	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	TOC	TOTAL ORGANIC CARBON	0.246	%-DRY	D
1996	BB011	BB	VibraCore	0	76.2	CM	TBT	TRIBUTYL TIN	4.2	UG/KG	U
1996	BB011	BB	VibraCore	76.2	152.4	CM	TBT	TRIBUTYL TIN	2.3	UG/KG	U
1996	BB011	BB	VibraCore	0	76.2	CM	METAL	ZINC	170	MG/KG	D
1996	BB011	BB	VibraCore	76.2	152.4	CM	METAL	ZINC	41.4	MG/KG	D
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	2-METHYLNAPHTHALENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	2-METHYLNAPHTHALENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDD	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDD	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDE	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDE	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDT	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDT	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	ACENAPHTHENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	ACENAPHTHENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	ACENAPHTHYLENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	ACENAPHTHYLENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ALDRIN	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ALPHA-BHC	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ALPHA-CHLORDANE	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	ANTHRACENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	ANTHRACENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	ANTIMONY	1.7	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	ANTIMONY	1.1	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1016	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1016	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1221	68	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1221	44	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1232	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1232	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1242	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1242	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1248	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1248	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1254	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1254	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1260	34	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1260	22	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	ARSENIC	8.4	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	ARSENIC	4.6	MG/KG	D
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(A)ANTHRACENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(A)ANTHRACENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(A)PYRENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(B)FLUORANTHENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(B)FLUORANTHENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(K)FLUORANTHENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	CADMIUM	0.08	MG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	CHROMIUM	69.6	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	CHROMIUM	56.8	MG/KG	D
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	CHRYSENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	CHRYSENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	COPPER	34.1	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	COPPER	13.5	MG/KG	D
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	340	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	DIELDRIN	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	DIELDRIN	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN I	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN II	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN II	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN SULFATE	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN SULFATE	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ENDRIN	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ENDRIN	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	ENDRIN ALDEHYDE	3.4	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	ENDRIN ALDEHYDE	2.2	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	FLUORANTHENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	FLUORENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	FLUORENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	GAMMA-BHC	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	GAMMA-CHLORDANE	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	HEPTACHLOR	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PEST	HEPTACHLOR EPOXIDE	1.7	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	LEAD	18.6	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	LEAD	4.8	MG/KG	D
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	MERCURY	0.22	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	MERCURY	0.03	MG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	NAPHTHALENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	NAPHTHALENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	NICKEL	59.9	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	NICKEL	57.2	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB012	BB	VibraCore	0	88.392	CM	PAH LOW	PHENANTHRENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH LOW	PHENANTHRENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	PAH HIGH	PYRENE	340	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	PAH HIGH	PYRENE	220	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	SELENIUM	1.3	MG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	SELENIUM	0.82	MG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	SILVER	0.24	MG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	SILVER	0.16	MG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	TOC	TOTAL ORGANIC CARBON	0.491	%-DRY	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	TOC	TOTAL ORGANIC CARBON	0.0124	%-DRY	U
1996	BB012	BB	VibraCore	0	88.392	CM	TBT	TRIBUTYL TIN	3.2	UG/KG	U
1996	BB012	BB	VibraCore	88.392	176.784	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB012	BB	VibraCore	0	88.392	CM	METAL	ZINC	93.5	MG/KG	D
1996	BB012	BB	VibraCore	88.392	176.784	CM	METAL	ZINC	44.2	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ALDRIN	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	ANTIMONY	0.79	MG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB013	BB	SurfaceLocation	0	85.344	CM	METAL	ANTIMONY	0.79	MG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1221	41	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	99	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	ARSENIC	4.3	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	2.3	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	CHROMIUM	56.7	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	22.7	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	COPPER	9.4	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	5.5	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	DIELDRIN	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ENDRIN	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	9.9	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	5.1	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	LEAD	5.1	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	9.2	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	MERCURY	0.02	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.04	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	NICKEL	46.7	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	15.5	MG/KG	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	SELENIUM	0.77	MG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	0.75	MG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	TOC	TOTAL ORGANIC CARBON	0.0124	%-DRY	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.612	%-DRY	D
1996	BB013	BB	VibraCore	85.344	173.736	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB013	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	2	UG/KG	U
1996	BB013	BB	VibraCore	85.344	173.736	CM	METAL	ZINC	31.3	MG/KG	D
1996	BB013	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	28.4	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	2-METHYLNAPHTHALENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	2-METHYLNAPHTHALENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDD	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	DDT 44	4,4'-DDD	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDE	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	DDT 44	4,4'-DDE	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDT	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	DDT 44	4,4'-DDT	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	ACENAPHTHENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHYLENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	ACENAPHTHYLENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ALDRIN	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ALPHA-BHC	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ALPHA-CHLORDANE	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	ANTHRACENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	ANTHRACENE	250	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	ANTIMONY	1.1	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	ANTIMONY	0.99	MG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1016	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1016	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1221	54	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1221	52	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1232	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1232	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1242	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1242	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1248	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1248	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1254	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1254	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1260	27	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	AROCLOR	AROCLOR-1260	25	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	ARSENIC	7.7	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	ARSENIC	6.5	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)ANTHRACENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	BENZO(A)ANTHRACENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)PYRENE	290	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	BENZO(A)PYRENE	640	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(B)FLUORANTHENE	320	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	BENZO(B)FLUORANTHENE	650	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	430	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(K)FLUORANTHENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	BENZO(K)FLUORANTHENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	CADMIUM	0.06	MG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	CADMIUM	0.06	MG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	CHROMIUM	55.7	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	CHROMIUM	48.1	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	CHRYSENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	CHRYSENE	190	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	COPPER	23.1	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	COPPER	20.8	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	DIELDRIN	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	DIELDRIN	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ENDOSULFAN I	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN II	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ENDOSULFAN II	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN SULFATE	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ENDOSULFAN SULFATE	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ENDRIN	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ENDRIN	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	ENDRIN ALDEHYDE	2.7	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	ENDRIN ALDEHYDE	2.5	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	FLUORENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	FLUORENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	GAMMA-BHC	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	GAMMA-CHLORDANE	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	HEPTACHLOR	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PEST	HEPTACHLOR EPOXIDE	1.3	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	140	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	310	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	LEAD	12.4	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	LEAD	11.7	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	MERCURY	0.34	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	MERCURY	0.16	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	NAPHTHALENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	NAPHTHALENE	250	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	NICKEL	55.9	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	NICKEL	51.1	MG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	PAH LOW	PHENANTHRENE	270	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH LOW	PHENANTHRENE	250	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	PAH HIGH	PYRENE	340	UG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	PAH HIGH	PYRENE	1000	UG/KG	D
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	SELENIUM	1	MG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	SELENIUM	0.96	MG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	SILVER	0.19	MG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	SILVER	0.18	MG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	TOC	TOTAL ORGANIC CARBON	0.434	%-DRY	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	TOC	TOTAL ORGANIC CARBON	0.192	%-DRY	D
1996	BB014	BB	VibraCore	0	79.248	CM	TBT	TRIBUTYL TIN	3.5	UG/KG	U
1996	BB014	BB	VibraCore	79.248	155.448	CM	TBT	TRIBUTYL TIN	2.7	UG/KG	U
1996	BB014	BB	VibraCore	0	79.248	CM	METAL	ZINC	68.4	MG/KG	D
1996	BB014	BB	VibraCore	79.248	155.448	CM	METAL	ZINC	70.4	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	2-METHYLNAPHTHALENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	2-METHYLNAPHTHALENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	DDT 44	4,4'-DDD	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDD	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	DDT 44	4,4'-DDE	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDE	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	DDT 44	4,4'-DDT	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDT	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	ACENAPHTHENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	ACENAPHTHYLENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHYLENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ALDRIN	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ALDRIN	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ALPHA-BHC	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-BHC	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ALPHA-CHLORDANE	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-CHLORDANE	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	ANTHRACENE	300	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	ANTHRACENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	ANTIMONY	1.2	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	ANTIMONY	1.4	MG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1016	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1016	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1221	61	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1221	71	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1232	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1232	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1242	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1242	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1248	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1248	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1254	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1254	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	AROCLOR	AROCLOR-1260	30	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1260	35	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	ARSENIC	6.9	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	ARSENIC	6.1	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	BENZO(A)ANTHRACENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)ANTHRACENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	BENZO(A)PYRENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)PYRENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	BENZO(B)FLUORANTHENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(B)FLUORANTHENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	BENZO(K)FLUORANTHENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(K)FLUORANTHENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	CADMIUM	0.09	MG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	CHROMIUM	52.3	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	CHROMIUM	68.5	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	CHRYSENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	CHRYSENE	350	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	COPPER	28.7	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	COPPER	24.8	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	DIELDRIN	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	DIELDRIN	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ENDOSULFAN I	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN I	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ENDOSULFAN II	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN II	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ENDOSULFAN SULFATE	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN SULFATE	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ENDRIN	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	ENDRIN ALDEHYDE	3	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN ALDEHYDE	3.5	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	FLUORANTHENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	FLUORANTHENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	FLUORENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	FLUORENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	GAMMA-BHC	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-BHC	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	GAMMA-CHLORDANE	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-CHLORDANE	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	HEPTACHLOR	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PEST	HEPTACHLOR EPOXIDE	1.5	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR EPOXIDE	1.8	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	LEAD	13.7	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	LEAD	8.8	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	MERCURY	0.15	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	MERCURY	0.05	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	NAPHTHALENE	300	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	NAPHTHALENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	NICKEL	46.2	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	NICKEL	65.1	MG/KG	D
1996	BB015	BB	VibraCore	0	85.344	CM	PAH LOW	PHENANTHRENE	300	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH LOW	PHENANTHRENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	PAH HIGH	PYRENE	160	UG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	PAH HIGH	PYRENE	350	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	SELENIUM	1.3	MG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	SILVER	0.3	MG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	SILVER	0.26	MG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	TOC	TOTAL ORGANIC CARBON	0.928	%-DRY	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	TOC	TOTAL ORGANIC CARBON	0.611	%-DRY	D
1996	BB015	BB	VibraCore	0	85.344	CM	TBT	TRIBUTYL TIN	3.1	UG/KG	U
1996	BB015	BB	VibraCore	85.344	167.64	CM	TBT	TRIBUTYL TIN	3.3	UG/KG	U
1996	BB015	BB	VibraCore	0	85.344	CM	METAL	ZINC	77.6	MG/KG	D
1996	BB015	BB	VibraCore	85.344	167.64	CM	METAL	ZINC	82.7	MG/KG	D
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ALDRIN	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	5.2	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	ANTIMONY	0.76	MG/KG	U
1996	BB016	BB	SurfaceLocation	0	85.344	CM	METAL	ANTIMONY	0.83	MG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1221	40	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	210	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	100	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	ARSENIC	2.5	MG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	2.2	MG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	CHROMIUM	27.5	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	23.4	MG/KG	D
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	CHRYSENE	200	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	COPPER	6.7	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	7.5	MG/KG	D
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	DIELDRIN	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	10	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	5.2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	LEAD	5	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	10.2	MG/KG	D
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	MERCURY	0.06	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.05	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	NICKEL	23.3	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	18.9	MG/KG	D
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	SELENIUM	0.74	MG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	0.77	MG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	SILVER	0.14	MG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.15	MG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	TOC	TOTAL ORGANIC CARBON	0.0126	%-DRY	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.0128	%-DRY	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	TBT	TRIBUTYL TIN	2.2	UG/KG	U
1996	BB016	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	2	UG/KG	U
1996	BB016	BB	VibraCore	85.344	167.64	CM	METAL	ZINC	25.2	MG/KG	D
1996	BB016	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	32.5	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	2-METHYLNAPHTHALENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	2-METHYLNAPHTHALENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDD	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDD	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDE	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDE	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	DDT 44	4,4'-DDT	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	DDT 44	4,4'-DDT	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	ACENAPHTHYLENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	ACENAPHTHYLENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ALDRIN	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ALPHA-BHC	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ALPHA-CHLORDANE	1.7	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	ANTHRACENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	ANTHRACENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	ANTIMONY	1.6	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	ANTIMONY	1.1	MG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1016	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1016	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1221	66	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1221	57	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1232	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1232	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1242	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1242	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1248	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1248	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1254	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1254	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	AROCLOR	AROCLOR-1260	32	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	AROCLOR	AROCLOR-1260	28	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	ARSENIC	6.8	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	ARSENIC	6.4	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)ANTHRACENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)ANTHRACENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(A)PYRENE	310	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(A)PYRENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(B)FLUORANTHENE	260	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(B)FLUORANTHENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	BENZO(K)FLUORANTHENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	BENZO(K)FLUORANTHENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	CADMIUM	0.08	MG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	CHROMIUM	47.3	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	CHROMIUM	42.5	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	CHRYSENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	CHRYSENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	COPPER	27.3	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	COPPER	20.8	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	DIELDRIN	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	DIELDRIN	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN I	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN II	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN II	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ENDOSULFAN SULFATE	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ENDOSULFAN SULFATE	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ENDRIN	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	ENDRIN ALDEHYDE	3.2	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	ENDRIN ALDEHYDE	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	FLUORENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	FLUORENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	GAMMA-BHC	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	GAMMA-CHLORDANE	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PEST	HEPTACHLOR EPOXIDE	1.7	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	160	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	LEAD	14.6	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	LEAD	7.1	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	MERCURY	0.28	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	MERCURY	0.1	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	NAPHTHALENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	NAPHTHALENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	NICKEL	44.3	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	NICKEL	40.8	MG/KG	D
1996	BB017	BB	VibraCore	0	82.296	CM	PAH LOW	PHENANTHRENE	320	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH LOW	PHENANTHRENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	PAH HIGH	PYRENE	300	UG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	PAH HIGH	PYRENE	280	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	SELENIUM	1.2	MG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	SILVER	0.23	MG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	SILVER	0.2	MG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	TOC	TOTAL ORGANIC CARBON	0.364	%-DRY	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	TOC	TOTAL ORGANIC CARBON	0.43	%-DRY	D
1996	BB017	BB	VibraCore	0	82.296	CM	TBT	TRIBUTYL TIN	3.1	UG/KG	U
1996	BB017	BB	VibraCore	82.296	161.544	CM	TBT	TRIBUTYL TIN	2.8	UG/KG	U
1996	BB017	BB	VibraCore	0	82.296	CM	METAL	ZINC	76.5	MG/KG	D
1996	BB017	BB	VibraCore	82.296	161.544	CM	METAL	ZINC	53.9	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	2-METHYLNAPHTHALENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	2-METHYLNAPHTHALENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDD	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDD	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDE	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDE	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	DDT 44	4,4'-DDT	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	DDT 44	4,4'-DDT	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	ACENAPHTHENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	ACENAPHTHENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	ACENAPHTHYLENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	ACENAPHTHYLENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ALDRIN	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ALDRIN	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ALPHA-BHC	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ALPHA-BHC	1.8	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ALPHA-CHLORDANE	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ALPHA-CHLORDANE	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	ANTHRACENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	ANTHRACENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	ANTIMONY	1.2	MG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	ANTIMONY	1.3	MG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1016	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1016	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1221	63	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1221	70	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1232	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1232	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1242	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1242	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1248	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1248	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1254	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1254	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	AROCLOR	AROCLOR-1260	31	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	AROCLOR	AROCLOR-1260	34	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	ARSENIC	6.3	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	ARSENIC	6.8	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(A)ANTHRACENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(A)ANTHRACENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(A)PYRENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(A)PYRENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(B)FLUORANTHENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(B)FLUORANTHENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	BENZO(K)FLUORANTHENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	BENZO(K)FLUORANTHENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	CADMIUM	0.08	MG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	CADMIUM	0.08	MG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	CHROMIUM	46.5	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	CHROMIUM	63.5	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	CHRYSENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	CHRYSENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	COPPER	22.6	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	COPPER	22.4	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	DIELDRIN	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	DIELDRIN	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN I	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN II	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN II	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ENDOSULFAN SULFATE	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ENDOSULFAN SULFATE	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ENDRIN	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ENDRIN	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	ENDRIN ALDEHYDE	3.1	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	ENDRIN ALDEHYDE	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	FLUORANTHENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	FLUORANTHENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	FLUORENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	FLUORENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	GAMMA-BHC	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	GAMMA-BHC	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	GAMMA-CHLORDANE	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	GAMMA-CHLORDANE	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	HEPTACHLOR	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	HEPTACHLOR	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PEST	HEPTACHLOR EPOXIDE	1.6	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PEST	HEPTACHLOR EPOXIDE	1.8	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	LEAD	8.7	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	LEAD	7.9	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	MERCURY	0.11	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	MERCURY	0.04	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	NAPHTHALENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	NAPHTHALENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	NICKEL	44.4	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	NICKEL	59.4	MG/KG	D
1996	BB018	BB	VibraCore	0	88.392	CM	PAH LOW	PHENANTHRENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH LOW	PHENANTHRENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	PAH HIGH	PYRENE	310	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	PAH HIGH	PYRENE	340	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	SELENIUM	1.2	MG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	SELENIUM	1.3	MG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	SILVER	0.23	MG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	SILVER	0.25	MG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	TOC	TOTAL ORGANIC CARBON	0.782	%-DRY	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	TOC	TOTAL ORGANIC CARBON	0.905	%-DRY	D
1996	BB018	BB	VibraCore	0	88.392	CM	TBT	TRIBUTYL TIN	3	UG/KG	U
1996	BB018	BB	VibraCore	88.392	176.784	CM	TBT	TRIBUTYL TIN	3.4	UG/KG	U
1996	BB018	BB	VibraCore	0	88.392	CM	METAL	ZINC	71	MG/KG	D
1996	BB018	BB	VibraCore	88.392	176.784	CM	METAL	ZINC	74.8	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	2-METHYLNAPHTHALENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDD	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDE	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	DDT 44	4,4'-DDT	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ACENAPHTHYLENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ALDRIN	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ALDRIN	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ALPHA-BHC	1	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-BHC	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ALPHA-CHLORDANE	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	ANTHRACENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	ANTIMONY	0.77	MG/KG	U
1996	BB019	BB	SurfaceLocation	0	91.44	CM	METAL	ANTIMONY	0.78	MG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1016	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1221	40	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1221	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1232	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1242	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1248	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1254	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	AROCLOR	AROCLOR-1260	110	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	ARSENIC	2	MG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	ARSENIC	2.2	MG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)ANTHRACENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(B)FLUORANTHENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	CADMIUM	0.05	MG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	CHROMIUM	17.2	MG/KG	D
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	CHROMIUM	23.1	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	CHRYSENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	COPPER	4.7	MG/KG	D
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	COPPER	5.5	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	DIELDRIN	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	DIELDRIN	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN I	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN II	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ENDOSULFAN SULFATE	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ENDRIN	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	ENDRIN ALDEHYDE	11	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	FLUORENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-BHC	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	GAMMA-CHLORDANE	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PEST	HEPTACHLOR EPOXIDE	5.7	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	LEAD	3.9	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	LEAD	8.9	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	MERCURY	0.03	MG/KG	D
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	MERCURY	0.11	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	NAPHTHALENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	NICKEL	13.8	MG/KG	D
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	NICKEL	17	MG/KG	D
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH LOW	PHENANTHRENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	PAH HIGH	PYRENE	220	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	SELENIUM	0.75	MG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	SELENIUM	0.82	MG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	SILVER	0.14	MG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	SILVER	0.16	MG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	TOC	TOTAL ORGANIC CARBON	0.0126	%-DRY	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	TOC	TOTAL ORGANIC CARBON	0.0121	%-DRY	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	BB019	BB	SurfaceLocation	0	15.24	CM	TBT	TRIBUTYL TIN	2	UG/KG	U
1996	BB019	BB	VibraCore	91.44	182.88	CM	METAL	ZINC	22.8	MG/KG	D
1996	BB019	BB	SurfaceLocation	0	15.24	CM	METAL	ZINC	28.7	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	2-METHYLNAPHTHALENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	2-METHYLNAPHTHALENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDD	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDE	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	DDT 44	4,4'-DDT	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	ACENAPHTHENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	ACENAPHTHYLENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	ACENAPHTHYLENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ALDRIN	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ALDRIN	1.5	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ALPHA-BHC	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ALPHA-BHC	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ALPHA-CHLORDANE	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ALPHA-CHLORDANE	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	ANTHRACENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	ANTHRACENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	ANTIMONY	0.91	MG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	ANTIMONY	1.1	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1016	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1221	48	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1221	60	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1232	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1242	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1248	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1254	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	AROCLOR	AROCLOR-1260	29	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	ARSENIC	3.1	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	ARSENIC	6.2	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)ANTHRACENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(A)ANTHRACENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(A)PYRENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(A)PYRENE	270	UG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(B)FLUORANTHENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	220	UG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	BENZO(K)FLUORANTHENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	BENZO(K)FLUORANTHENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	CADMIUM	0.06	MG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	CHROMIUM	36.6	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	CHROMIUM	37.6	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	CHRYSENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	CHRYSENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	COPPER	12.9	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	COPPER	24.6	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	DIELDRIN	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	DIELDRIN	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN I	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN II	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN II	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ENDOSULFAN SULFATE	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ENDOSULFAN SULFATE	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ENDRIN	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ENDRIN	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	ENDRIN ALDEHYDE	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	FLUORANTHENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	FLUORANTHENE	270	UG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	FLUORENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	FLUORENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	GAMMA-BHC	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	GAMMA-BHC	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	GAMMA-CHLORDANE	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	GAMMA-CHLORDANE	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	HEPTACHLOR	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PEST	HEPTACHLOR EPOXIDE	1.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PEST	HEPTACHLOR EPOXIDE	1.5	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	150	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	LEAD	9.9	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	LEAD	8.3	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	MERCURY	0.08	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	MERCURY	0.16	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	NAPHTHALENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	NAPHTHALENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	NICKEL	33.9	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	NICKEL	36.8	MG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	PAH LOW	PHENANTHRENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH LOW	PHENANTHRENE	290	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	PAH HIGH	PYRENE	240	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	PAH HIGH	PYRENE	340	UG/KG	D
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	SELENIUM	0.88	MG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	SILVER	0.18	MG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	SILVER	0.21	MG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	TOC	TOTAL ORGANIC CARBON	0.0133	%-DRY	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	TOC	TOTAL ORGANIC CARBON	0.755	%-DRY	D
1996	BB020	BB	VibraCore	0	79.248	CM	TBT	TRIBUTYL TIN	2.2	UG/KG	U
1996	BB020	BB	VibraCore	79.248	158.496	CM	TBT	TRIBUTYL TIN	2.9	UG/KG	U
1996	BB020	BB	VibraCore	0	79.248	CM	METAL	ZINC	48.3	MG/KG	D
1996	BB020	BB	VibraCore	79.248	158.496	CM	METAL	ZINC	55.8	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	2-METHYLNAPHTHALENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	2-METHYLNAPHTHALENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDD	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDD	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDE	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDE	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	DDT 44	4,4'-DDT	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	DDT 44	4,4'-DDT	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	ACENAPHTHYLENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	ACENAPHTHYLENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ALDRIN	1.6	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ALDRIN	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ALPHA-BHC	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-BHC	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ALPHA-CHLORDANE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ALPHA-CHLORDANE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	ANTHRACENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	ANTHRACENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	ANTIMONY	1.2	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	ANTIMONY	1.2	MG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1016	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1016	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1221	62	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1221	63	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1232	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1232	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1242	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1242	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1248	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1248	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1254	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1254	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	AROCLOR	AROCLOR-1260	30	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	AROCLOR	AROCLOR-1260	31	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	ARSENIC	4.7	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	ARSENIC	5.1	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)ANTHRACENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(A)PYRENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(A)PYRENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(B)FLUORANTHENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	BENZO(K)FLUORANTHENE	310	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	CADMIUM	0.07	MG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	CADMIUM	0.08	MG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	CHROMIUM	40.8	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	CHROMIUM	51.3	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	CHRYSENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	CHRYSENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	COPPER	19.3	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	COPPER	18.4	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	DIELDRIN	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	DIELDRIN	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN II	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN II	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ENDOSULFAN SULFATE	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ENDOSULFAN SULFATE	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ENDRIN	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	ENDRIN ALDEHYDE	3	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	ENDRIN ALDEHYDE	3.1	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	FLUORANTHENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	FLUORANTHENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	FLUORENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	FLUORENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	GAMMA-BHC	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-BHC	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	GAMMA-CHLORDANE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	GAMMA-CHLORDANE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PEST	HEPTACHLOR EPOXIDE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PEST	HEPTACHLOR EPOXIDE	1.6	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	300	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	LEAD	7.5	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	LEAD	6.3	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	MERCURY	0.12	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	MERCURY	0.04	MG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	NAPHTHALENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	NAPHTHALENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	NICKEL	36.8	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	NICKEL	49.2	MG/KG	D
1996	BB021	BB	VibraCore	0	76.2	CM	PAH LOW	PHENANTHRENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH LOW	PHENANTHRENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	PAH HIGH	PYRENE	300	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	PAH HIGH	PYRENE	310	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	SELENIUM	1.1	MG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	SELENIUM	1.2	MG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	SILVER	0.22	MG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	SILVER	0.23	MG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	TOC	TOTAL ORGANIC CARBON	0.213	%-DRY	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	TOC	TOTAL ORGANIC CARBON	0.43	%-DRY	D
1996	BB021	BB	VibraCore	0	76.2	CM	TBT	TRIBUTYL TIN	2.8	UG/KG	U
1996	BB021	BB	VibraCore	76.2	152.4	CM	TBT	TRIBUTYL TIN	2.9	UG/KG	U
1996	BB021	BB	VibraCore	0	76.2	CM	METAL	ZINC	63.9	MG/KG	D
1996	BB021	BB	VibraCore	76.2	152.4	CM	METAL	ZINC	95.1	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDD	0.54	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDE	0.53	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDT	0.53	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDD	1.1	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDE	1.5	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDT	0.74	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHENE	19	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHYLENE	37	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	ALDRIN	0.34	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	ALPHA-CHLORDANE	0.32	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ANTHRACENE	170	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	ANTIMONY	0.15	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	ARSENIC	6.6	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)ANTHRACENE	380	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)PYRENE	260	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(B)FLUORANTHENE	430	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	120	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(K)FLUORANTHENE	140	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	CADMIUM	0.26	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	CHROMIUM	98	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	CHRYSENE	390	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	COPPER	66	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	22	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	DIELDRIN	0.32	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	ENDRIN	0.32	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	FLUORANTHENE	1400	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	FLUORENE	33	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR	0.32	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR EPOXIDE	0.32	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	140	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	LEAD	32.2	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	MERCURY	0.4	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	NAPHTHALENE	8.6	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	NICKEL	66.6	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB101	1.5	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB105	0.44	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB118	1.3	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB126	0.39	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB128	0.44	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB138	2.3	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB153	2.1	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB170	0.94	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB18	0.47	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB180	1.5	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB187	0.88	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB195	0.14	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB206	0.43	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB209	0.22	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB28	0.77	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB44	0.46	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB52	0.94	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB66	0.17	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB77	0.26	UG/KG	U
1998	BW01	BB	SurfaceLocation	0	6.096	CM	CON	PCB8	0.59	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PERYLENE	75	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH LOW	PHENANTHRENE	170	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PYRENE	820	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	SELENIUM	0.7	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	SILVER	0.34	MG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	TOC	TOTAL ORGANIC CARBON	1.79	%-DRY	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	TBT	TRIBUTYL TIN	9	UG/KG	D
1998	BW01	BB	SurfaceLocation	0	6.096	CM	METAL	ZINC	145	MG/KG	D
2002	BW02	BB	grab	0	5	CM	DDT 24	2,4'-DDD	1.77	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDD	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	DDT 24	2,4'-DDE	0.101	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDE	0.51	UG/KG	U
2002	BW02	BB	grab	0	5	CM	DDT 24	2,4'-DDT	0.132	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDT	0.51	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	21	UG/KG	D
2002	BW02	BB	grab	0	5	CM	DDT 44	4,4'-DDD	1.86	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDD	0.72	UG/KG	U
2002	BW02	BB	grab	0	5	CM	DDT 44	4,4'-DDE	1.56	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDE	0.93	UG/KG	D
2002	BW02	BB	grab	0	5	CM	DDT 44	4,4'-DDT	0.849	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDT	0.72	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PAH LOW	ACENAPHTHENE	87.4	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHENE	4.2	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH LOW	ACENAPHTHYLENE	11.9	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHYLENE	16	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PEST	ALDRIN	0.0819	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	ALDRIN	0.33	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	ALPHA-BHC	0.0697	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW02	BB	grab	0	5	CM	PEST	ALPHA-CHLORDANE	0.170	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	ALPHA-CHLORDANE	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PAH LOW	ANTHRACENE	126	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ANTHRACENE	48	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	ANTIMONY	0.698	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	ANTIMONY	0.17	MG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	ARSENIC	10.2	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	ARSENIC	6.5	MG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	307	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)ANTHRACENE	120	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	BENZO(A)PYRENE	289	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)PYRENE	120	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	284	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	192	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	84	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	248	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(K)FLUORANTHENE	53	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	CADMIUM	0.44	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	CADMIUM	0.21	MG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	CHROMIUM	150	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	CHROMIUM	92	MG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	CHRYSENE	486	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	CHRYSENE	140	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	COPPER	58.1	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	COPPER	64	MG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	30.5	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	12	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PEST	DIELDRIN	0.471	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	DIELDRIN	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	ENDOSULFAN I	0.132	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	ENDOSULFAN II	0.129	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	ENDOSULFAN SULFATE	0.135	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	ENDRIN	0.114	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	ENDRIN	0.31	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW02	BB	grab	0	5	CM	PEST	ENDRIN ALDEHYDE	0.187	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PAH HIGH	FLUORANTHENE	666	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH LOW	FLUORENE	108	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	FLUORENE	8.3	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PEST	GAMMA-BHC	0.0846	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	GAMMA-BHC	0.22	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	GAMMA-CHLORDANE	0.426	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PEST	HEPTACHLOR	0.107	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.99	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR EPOXIDE	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	207	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	89	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	LEAD	29.3	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	LEAD	32.5	MG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	MERCURY	0.362	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	MERCURY	0.4	MG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH LOW	NAPHTHALENE	29.8	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	NAPHTHALENE	4.7	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	NICKEL	89.9	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	NICKEL	67.9	MG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB101	1.62	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB101	0.87	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB105	0.603	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB105	0.24	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB110	1.81	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB118	1.63	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB118	1.1	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB126	0.189	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB126	0.38	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB128	0.394	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB128	0.22	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB129	0.107	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB138	2.73	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB138	1.8	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB153	3.40	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB153	1.6	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB170	1.33	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB170	0.74	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB18	0.28	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB18	0.45	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB180	2.08	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB180	0.92	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB187	1.15	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB187	0.78	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB195	0.22	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB195	0.13	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB206	0.20	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB206	0.31	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB209	0.53	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB209	0.20	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB28	0.48	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB28	0.31	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB44	0.34	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB44	0.19	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB52	0.58	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB52	0.35	UG/KG	D
2002	BW02	BB	grab	0	5	CM	CON	PCB66	0.82	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB66	0.38	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB77	0.22	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB77	0.25	UG/KG	U
2002	BW02	BB	grab	0	5	CM	CON	PCB8	0.73	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	CON	PCB8	0.22	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PERYLENE	39	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH LOW	PHENANTHRENE	467	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH LOW	PHENANTHRENE	65	UG/KG	D
2002	BW02	BB	grab	0	5	CM	PAH HIGH	PYRENE	599	UG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PYRENE	230	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	SELENIUM	0.889	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	SELENIUM	0.7	MG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	SILVER	0.763	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	SILVER	0.35	MG/KG	D
2002	BW02	BB	grab	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.7	PCTwt	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	TOC	TOTAL ORGANIC CARBON	1.79	%-DRY	D
2002	BW02	BB	grab	0	5	CM	TBT	TRIBUTYL TIN	3.774622	UG/KG	U
1998	BW02	BB	SurfaceLocation	0	6.096	CM	TBT	TRIBUTYL TIN	8	UG/KG	D
2002	BW02	BB	grab	0	5	CM	METAL	ZINC	141	MG/KG	D
1998	BW02	BB	SurfaceLocation	0	6.096	CM	METAL	ZINC	141	MG/KG	D
2002	BW03	BB	grab	0	5	CM	DDT 24	2,4'-DDD	0.6839276	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDD	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	DDT 24	2,4'-DDE	0.08372387	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDE	0.46	UG/KG	U
2002	BW03	BB	grab	0	5	CM	DDT 24	2,4'-DDT	0.1518865	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDT	0.46	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	7.01	UG/KG	D
2002	BW03	BB	grab	0	5	CM	DDT 44	4,4'-DDD	1.116464	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDD	0.94	UG/KG	U
2002	BW03	BB	grab	0	5	CM	DDT 44	4,4'-DDE	0.9387155	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDE	0.6	UG/KG	D
2002	BW03	BB	grab	0	5	CM	DDT 44	4,4'-DDT	0.3018004	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDT	0.94	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PAH LOW	ACENAPHTHENE	3.88	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHENE	3.7	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH LOW	ACENAPHTHYLENE	6.32	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHYLENE	17	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PEST	ALDRIN	0.06148795	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	ALDRIN	0.33	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PEST	ALPHA-BHC	0.05229342	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ALPHA-CHLORDANE	0.08131297	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	ALPHA-CHLORDANE	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PAH LOW	ANTHRACENE	23.2	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ANTHRACENE	30	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	ANTIMONY	0.604	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	ANTIMONY	0.26	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW03	BB	grab	0	5	CM	METAL	ARSENIC	6.61	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	ARSENIC	7.9	MG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	84.4	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)ANTHRACENE	75	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	BENZO(A)PYRENE	118	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	155	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(B)FLUORANTHENE	190	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	126	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	79	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	127	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(K)FLUORANTHENE	46	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	CADMIUM	0.341	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	CADMIUM	0.41	MG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	CHROMIUM	134	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	CHROMIUM	84	MG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	CHRYSENE	150	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	CHRYSENE	70	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	COPPER	37.1	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	COPPER	56	MG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	18.2	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	11	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PEST	DIELDRIN	0.4215782	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	DIELDRIN	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ENDOSULFAN I	0.0992441	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ENDOSULFAN II	0.09689374	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ENDOSULFAN SULFATE	0.1013362	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ENDRIN	0.08577092	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	ENDRIN	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	ENDRIN ALDEHYDE	0.1403299	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PAH HIGH	FLUORANTHENE	170	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	FLUORANTHENE	120	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH LOW	FLUORENE	7.86	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	FLUORENE	5.2	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PEST	GAMMA-BHC	0.06348801	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	GAMMA-BHC	0.2	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	GAMMA-CHLORDANE	0.2849242	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PEST	HEPTACHLOR	0.08031794	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.07416753	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR EPOXIDE	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	134	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	92	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	LEAD	21.1	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	LEAD	36.7	MG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	MERCURY	0.243	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	MERCURY	0.5	MG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH LOW	NAPHTHALENE	14.6	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	NAPHTHALENE	8.6	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	NICKEL	67.2	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	NICKEL	63.3	MG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB101	0.9917553	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB101	1.7	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB105	0.394072	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB105	0.4	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB110	1.133779	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB118	1.018713	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB118	1.3	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB126	0.1416971	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB126	0.34	UG/KG	U
2002	BW03	BB	grab	0	5	CM	CON	PCB128	0.2695821	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB128	0.36	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB129	0.01457497	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB138	1.798419	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB138	2.7	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB153	2.264051	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB153	2.8	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB170	0.9345513	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB170	0.93	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB18	0.1841048	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB18	0.41	UG/KG	U
2002	BW03	BB	grab	0	5	CM	CON	PCB180	1.340678	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB180	1.6	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB187	0.7681994	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB187	1.2	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB195	0.1529824	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB195	0.12	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB206	0.1422429	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB206	0.38	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB209	0.3347859	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB209	0.65	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB28	0.3324846	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB28	0.28	UG/KG	U
2002	BW03	BB	grab	0	5	CM	CON	PCB44	0.2073371	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB44	0.26	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB52	0.3149508	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB52	0.53	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB66	0.5918752	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB66	0.48	UG/KG	D
2002	BW03	BB	grab	0	5	CM	CON	PCB77	0.1632672	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB77	0.22	UG/KG	U
2002	BW03	BB	grab	0	5	CM	CON	PCB8	0.5134114	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	CON	PCB8	0.19	UG/KG	U
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PERYLENE	35	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH LOW	PHENANTHRENE	56.9	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH LOW	PHENANTHRENE	46	UG/KG	D
2002	BW03	BB	grab	0	5	CM	PAH HIGH	PYRENE	193	UG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PYRENE	150	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	SELENIUM	0.872	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	SELENIUM	0.5	MG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	SILVER	0.555	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	SILVER	0.48	MG/KG	D
2002	BW03	BB	grab	0	5	CM	TOC	TOTAL ORGANIC CARBON	1	PCTwt	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	TOC	TOTAL ORGANIC CARBON	1.4	%-DRY	D
2002	BW03	BB	grab	0	5	CM	TBT	TRIBUTYL TIN	4.542206	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW03	BB	SurfaceLocation	0	6.096	CM	TBT	TRIBUTYL TIN	6	UG/KG	D
2002	BW03	BB	grab	0	5	CM	METAL	ZINC	95.9	MG/KG	D
1998	BW03	BB	SurfaceLocation	0	6.096	CM	METAL	ZINC	137	MG/KG	D
2002	BW04	BB	grab	0	5	CM	DDT 24	2,4'-DDD	0.7485508	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDD	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	DDT 24	2,4'-DDE	0.136503	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDE	0.56	UG/KG	U
2002	BW04	BB	grab	0	5	CM	DDT 24	2,4'-DDT	0.2136879	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDT	0.56	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	9.24	UG/KG	D
2002	BW04	BB	grab	0	5	CM	DDT 44	4,4'-DDD	1.808843	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDD	0.79	UG/KG	U
2002	BW04	BB	grab	0	5	CM	DDT 44	4,4'-DDE	1.376036	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDE	0.82	UG/KG	D
2002	BW04	BB	grab	0	5	CM	DDT 44	4,4'-DDT	0.4448139	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDT	0.79	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PAH LOW	ACENAPHTHENE	5.42	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHENE	2.5	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH LOW	ACENAPHTHYLENE	7.66	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHYLENE	7.2	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PEST	ALDRIN	0.08019972	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	ALDRIN	0.36	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ALPHA-BHC	0.06820714	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ALPHA-CHLORDANE	0.1240676	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	ALPHA-CHLORDANE	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PAH LOW	ANTHRACENE	21.2	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ANTHRACENE	23	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	ANTIMONY	0.822	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	ANTIMONY	0.18	MG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	ARSENIC	9.35	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	ARSENIC	6.2	MG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	80.6	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)ANTHRACENE	69	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	BENZO(A)PYRENE	157	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)PYRENE	97	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW04	BB	grab	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	139	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	145	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	72	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	117	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(K)FLUORANTHENE	33	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	CADMIUM	0.428	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	CADMIUM	0.15	MG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	CHROMIUM	152	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	CHROMIUM	89	MG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	CHRYSENE	110	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	CHRYSENE	67	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	COPPER	52.9	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	COPPER	58	MG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	17.2	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	6	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PEST	DIELDRIN	0.4129393	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	DIELDRIN	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ENDOSULFAN I	0.1294457	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ENDOSULFAN II	0.12638	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ENDOSULFAN SULFATE	0.1321744	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ENDRIN	0.1118724	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	ENDRIN	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	ENDRIN ALDEHYDE	0.1830345	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PAH HIGH	FLUORANTHENE	190	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	FLUORANTHENE	150	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH LOW	FLUORENE	8.66	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	FLUORENE	4.6	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PEST	GAMMA-BHC	0.08280842	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	GAMMA-CHLORDANE	0.3419006	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PEST	HEPTACHLOR	0.10476	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.09673789	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR EPOXIDE	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	148	UG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	71	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	LEAD	30.2	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	LEAD	31.9	MG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	MERCURY	0.39	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	MERCURY	0.4	MG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH LOW	NAPHTHALENE	16.2	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	NAPHTHALENE	6.7	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	NICKEL	87.6	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	NICKEL	62.4	MG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB101	1.855583	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB101	0.5	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB105	0.684373	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB105	0.16	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB110	1.993658	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB118	1.713219	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB118	0.6	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB126	0.1848178	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB126	0.42	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB128	0.5168531	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB128	0.18	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB129	0.05631641	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB138	3.221327	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB138	1.2	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB153	3.999323	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB153	0.94	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB170	1.286558	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB170	0.71	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB18	0.2144026	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB18	0.49	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB180	2.286818	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB180	0.66	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB187	1.351165	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB187	0.59	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB195	0.4278046	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB195	0.15	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW04	BB	grab	0	5	CM	CON	PCB206	0.2755788	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB206	0.12	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB209	1.055432	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB209	0.15	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB28	0.5287167	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB28	0.34	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB44	0.3883545	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB44	0.17	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB52	0.7162475	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB52	0.23	UG/KG	D
2002	BW04	BB	grab	0	5	CM	CON	PCB66	0.6309153	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB66	0.18	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB77	0.212952	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB77	0.27	UG/KG	U
2002	BW04	BB	grab	0	5	CM	CON	PCB8	0.3401854	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	CON	PCB8	0.24	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PERYLENE	30	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH LOW	PHENANTHRENE	73.4	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH LOW	PHENANTHRENE	65	UG/KG	D
2002	BW04	BB	grab	0	5	CM	PAH HIGH	PYRENE	231	UG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PYRENE	180	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	SELENIUM	0.674	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	SELENIUM	0.6	MG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	SILVER	0.769	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	SILVER	0.32	MG/KG	D
2002	BW04	BB	grab	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.21	PCTwt	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	TOC	TOTAL ORGANIC CARBON	1.47	%-DRY	D
2002	BW04	BB	grab	0	5	CM	TBT	TRIBUTYL TIN	4.178452	UG/KG	U
1998	BW04	BB	SurfaceLocation	0	6.096	CM	TBT	TRIBUTYL TIN	6	UG/KG	D
2002	BW04	BB	grab	0	5	CM	METAL	ZINC	128	MG/KG	D
1998	BW04	BB	SurfaceLocation	0	6.096	CM	METAL	ZINC	135	MG/KG	D
2002	BW05	BB	grab	0	5	CM	DDT 24	2,4'-DDD	0.8307712	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDD	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	DDT 24	2,4'-DDE	0.1191306	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDE	0.54	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW05	BB	grab	0	5	CM	DDT 24	2,4'-DDT	0.1428625	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 24	2,4'-DDT	0.54	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	10.6	UG/KG	D
2002	BW05	BB	grab	0	5	CM	DDT 44	4,4'-DDD	1.800162	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDD	0.94	UG/KG	D
2002	BW05	BB	grab	0	5	CM	DDT 44	4,4'-DDE	1.502335	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDE	0.88	UG/KG	D
2002	BW05	BB	grab	0	5	CM	DDT 44	4,4'-DDT	0.7963522	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	DDT 44	4,4'-DDT	0.75	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PAH LOW	ACENAPHTHENE	4.71	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHENE	2.5	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH LOW	ACENAPHTHYLENE	6.97	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ACENAPHTHYLENE	7	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PEST	ALDRIN	0.08818372	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	ALDRIN	0.34	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ALPHA-BHC	0.07499726	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ALPHA-CHLORDANE	0.1912691	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	ALPHA-CHLORDANE	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PAH LOW	ANTHRACENE	21.4	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	ANTHRACENE	16	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	ANTIMONY	0.761	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	ANTIMONY	0.2	MG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	ARSENIC	8.75	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	ARSENIC	5.3	MG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	80.9	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)ANTHRACENE	57	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	BENZO(A)PYRENE	162	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(A)PYRENE	97	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	146	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	159	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	80	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	120	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	BENZO(K)FLUORANTHENE	35	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	CADMIUM	0.377	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	CADMIUM	0.15	MG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	CHROMIUM	153	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	CHROMIUM	97	MG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	CHRYSENE	116	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	CHRYSENE	61	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	COPPER	55.2	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	COPPER	60	MG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	18.2	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	7.9	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PEST	DIELDRIN	0.4755796	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	DIELDRIN	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ENDOSULFAN I	0.1423322	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ENDOSULFAN II	0.1389614	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ENDOSULFAN SULFATE	0.1453325	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ENDRIN	0.1230094	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	ENDRIN	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	ENDRIN ALDEHYDE	0.2012558	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PAH HIGH	FLUORANTHENE	184	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	FLUORANTHENE	120	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH LOW	FLUORENE	8.81	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	FLUORENE	3.5	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PEST	GAMMA-BHC	0.09105212	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	GAMMA-CHLORDANE	0.3292595	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PEST	HEPTACHLOR	0.115189	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.1063683	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PEST	HEPTACHLOR EPOXIDE	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	154	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	80	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	LEAD	32.5	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	LEAD	33.5	MG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	MERCURY	0.375	MG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH LOW	NAPHTHALENE	19.5	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	NAPHTHALENE	4.3	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	NICKEL	88.4	MG/KG	D

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	NICKEL	60.3	MG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB101	1.807705	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB101	0.79	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB105	0.731129	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB105	0.28	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB110	1.98373	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB118	1.741696	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB118	0.83	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB126	0.2032167	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB126	0.4	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB128	0.5777365	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB128	0.29	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB129	0.05767935	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB138	3.419112	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB138	1.8	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB153	4.22018	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB153	1.6	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB170	1.408508	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB170	0.68	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB18	0.2439192	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB18	0.47	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB180	2.326505	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB180	0.99	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB187	1.566301	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB187	0.76	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB195	0.3033274	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB195	0.14	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB206	0.2498915	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB206	0.16	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB209	1.332597	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB209	0.2	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB28	0.5082698	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB28	0.32	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB44	0.3432471	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB44	0.16	UG/KG	U

Table A-4. Summary Table for Breakwater Beach Sediment Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2002	BW05	BB	grab	0	5	CM	CON	PCB52	0.5588768	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB52	0.29	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB66	0.7215419	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB66	0.17	UG/KG	U
2002	BW05	BB	grab	0	5	CM	CON	PCB77	0.2341516	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB77	0.83	UG/KG	D
2002	BW05	BB	grab	0	5	CM	CON	PCB8	0.3069422	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	CON	PCB8	0.22	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PERYLENE	31	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH LOW	PHENANTHRENE	71.8	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH LOW	PHENANTHRENE	37	UG/KG	D
2002	BW05	BB	grab	0	5	CM	PAH HIGH	PYRENE	228	UG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	PAH HIGH	PYRENE	150	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	SELENIUM	1.15	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	SELENIUM	0.6	MG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	SILVER	0.755	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	SILVER	0.34	MG/KG	D
2002	BW05	BB	grab	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.44	PCTwt	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	TOC	TOTAL ORGANIC CARBON	1.42	%-DRY	D
2002	BW05	BB	grab	0	5	CM	TBT	TRIBUTYL TIN	4.237567	UG/KG	U
1998	BW05	BB	SurfaceLocation	0	6.096	CM	TBT	TRIBUTYL TIN	6	UG/KG	D
2002	BW05	BB	grab	0	5	CM	METAL	ZINC	139	MG/KG	D
1998	BW05	BB	SurfaceLocation	0	6.096	CM	METAL	ZINC	144	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	100	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	110	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	110	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	5.8	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	3.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	3.2	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	4	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	4.4	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	3.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	3.2	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	4	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	4.4	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	3.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	3.2	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	4	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	100	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	110	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	110	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	130	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	190	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	1	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	8.525	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	1	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	140	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	170	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	150	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	31.75	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	10	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	21	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	39	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	333	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	32	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	667	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	62	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	63	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	80	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	333	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	32	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	333	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	32	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	44	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	32	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	44	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	32	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	44	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	31	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	32	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	40	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	10.1	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	8.1	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	9.4	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	13	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	250	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	900	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	920	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	197.5	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	490	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	2000	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	2000	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	287.5	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	480	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1900	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1700	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	217.5	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	450	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	2000	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	1800	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	130	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	540	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	580	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.26	MG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	157.5	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	87	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	100	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	150	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	165	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	340	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	1200	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	1200	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	COPPER	42.5	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	COPPER	26	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	COPPER	33	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	COPPER	48	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	100	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	160	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	160	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.225	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	1.5	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	1.6	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	2	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.225	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	1.5	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	2	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.225	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	1.5	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	1.6	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.225	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	1.5	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	1.6	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	7.175	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	1.5	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	1.6	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	2	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	126.7	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	3.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	3.2	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	4	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	GRAIN	FINES	94.4333	PCT	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	GRAIN	FINES	52.4	PCT	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	GRAIN	FINES	70.9	PCT	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	GRAIN	FINES	93.8	PCT	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	287.5	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	720	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	2200	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	1700	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	81.25	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	65	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	61	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	58	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	8.525	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	1	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	6.05	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	79	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	100	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	0.8	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	400	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	1700	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	1600	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	LEAD	25.75	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	LEAD	16	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	LEAD	17	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	LEAD	23	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.28	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.22	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.24	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.38	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	100	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	110	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	110	UG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	NICKEL	69.5	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	NICKEL	49	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	NICKEL	62	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	NICKEL	87	MG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	155	UG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	510	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	470	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	300	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	375	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	1000	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	3400	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	3200	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.2675	MG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	1.3	PCT	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	0.8	PCT	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.8	PCT	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	1.3	PCT	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	16.25	UG/KG	M
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	130	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	160	UG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	250	UG/KG	D
1993/4	B02	WB	WB N	SurfaceLocation	0	9.1	CM	METAL	ZINC	130	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	9.1	39.6	CM	METAL	ZINC	78	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	39.6	70.1	CM	METAL	ZINC	87	MG/KG	D
1993/4	B02	WB	WB N	BoringLocation	85.3	94.5	CM	METAL	ZINC	140	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	5.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	5.4	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	5.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	5.6	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	39.333333	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	216.33333	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	757.33333	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	54	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	54	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	54	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	54	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	54	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	11.666667	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	167.5	UG/KG	M
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	170	UG/KG	M
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	106.66667	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	140	UG/KG	M
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	COPPER	47	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.7	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.7	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.7	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.7	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	2.7	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	5.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	GRAIN	FINES	97	PCT	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	215	UG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	69.25	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	5.6	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	162.5	UG/KG	M
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	LEAD	23.666667	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.3333333	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	NICKEL	89.333333	MG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	132.5	UG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	275	UG/KG	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.8	PCT	D
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	11.666667	UG/KG	M
1993/4	B03	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ZINC	130	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	140	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	15.55	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	3.5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	3.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	4	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	6.3	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	3.5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	3.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	4	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	3.775	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	3.5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	3.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	4	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	140	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	140	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	0.945	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	2.7	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	0.945	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	140	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	20.25	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	26	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	37	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	35	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	69	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	40	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	138	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	70	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	78	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	80	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	69	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	40	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	69	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	40	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	37.75	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	40	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	87.25	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	40	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	162	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	35	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	39	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	40	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	7.775	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	11	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	13	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	14	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	105	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	290	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	170	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	215	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	410	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	710	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	780	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	247.5	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	360	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	670	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	760	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	187.5	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	390	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	710	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	840	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	102.5	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	140	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.3075	MG/KG	M

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	132.5	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	140	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	170	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	170	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	150	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	130	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	270	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	240	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	COPPER	25.75	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	COPPER	32	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	COPPER	50	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	COPPER	53	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	140	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	6.425	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	1.8	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	2	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	2	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	1.925	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	1.8	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	2	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	2	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	1.925	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	1.8	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	1.925	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	1.8	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	6.425	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	1.8	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	2	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	2	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	12.55	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	3.5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	3.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	4	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	GRAIN	FINES	62.5667	PCT	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	GRAIN	FINES	81.7	PCT	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	GRAIN	FINES	96.7	PCT	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	GRAIN	FINES	95.8	PCT	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	110	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	270	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	730	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	530	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	52.5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	63	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	71	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	71	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	2.7	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.15	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	0.945	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	98	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	0.945	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	0.9	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	162.5	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	320	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	590	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	630	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	LEAD	24.25	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	LEAD	18	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	LEAD	25	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	LEAD	24	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.215	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.22	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.37	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.41	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	140	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	140	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	NICKEL	54.25	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	NICKEL	88	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	NICKEL	110	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	NICKEL	120	MG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	100	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	120	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	450	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	270	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	252.5	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	520	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	1000	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	920	UG/KG	D
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.775	PCT	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	0.9	PCT	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.9	PCT	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	1.2	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	9.25	UG/KG	M
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	120	UG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B04	WB	SKR	SurfaceLocation	0	9.1	CM	METAL	ZINC	104.75	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	9.1	39.6	CM	METAL	ZINC	120	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	39.6	70.1	CM	METAL	ZINC	160	MG/KG	D
1993/4	B04	WB	SKR	BoringLocation	85.3	94.5	CM	METAL	ZINC	160	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	4.8	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	4.8	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	4.8	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.2	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	104.66667	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.2	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	32	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	344.33333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	689	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	344.33333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	344.33333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	48	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	48	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	48	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	10.233333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	185	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	225	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	197.5	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	153.33333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	172.5	UG/KG	M
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	COPPER	34.333333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	160	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	23.833333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.4	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.4	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.4	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	23.833333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	48.333333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	GRAIN	FINES	87.4333	PCT	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	365	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	83	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	86.033333	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.2	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	1.2	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.2	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	172.5	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	LEAD	25.333333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.2733333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	160	UG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	NICKEL	67.333333	MG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	162.5	UG/KG	M
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	400	UG/KG	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.2533333	MG/KG	M
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	1.2	PCT	D
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	7.6666667	UG/KG	M
1993/4	B05	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ZINC	130	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	4.275	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	2.8	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	4.275	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	2.8	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	4.275	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	2.8	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	30	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	16	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	7.7	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	7	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	28	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	85.75	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	56	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	48	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	49	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	28	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	28	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	28	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	49	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	42.75	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	28	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	9.325	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	5.8	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	2.5	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	2	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	128.5	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	160	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	240	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	340	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	282.5	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	87	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	350	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	225	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	310	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	126	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	110	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.2525	MG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.3	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	115	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	92	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	68	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	67	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	177.5	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	240	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	COPPER	33.75	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	COPPER	25	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	COPPER	6.7	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	COPPER	6.3	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.15	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	1.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.15	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.15	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	1.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.15	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	1.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	2.15	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	1.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	1.2	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	4.275	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	2.8	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	GRAIN	FINES	77.0667	PCT	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	GRAIN	FINES	29.8	PCT	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	GRAIN	FINES	16.7	PCT	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	GRAIN	FINES	6.7	PCT	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	123.5	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	280	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	55.25	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	45	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	43	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	51	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	0.61	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	3.55	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.05	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	0.7	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	0.6	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	0.61	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	205	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	290	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	LEAD	21.25	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	LEAD	23	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	LEAD	4.4	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	LEAD	1.9	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.235	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.2	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.09	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.01	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	106	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	99	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	NICKEL	68	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	NICKEL	53	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	NICKEL	32	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	NICKEL	32	MG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	111	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	180	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	272.5	UG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	87	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	82	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	740	UG/KG	D
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	1.075	PCT	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	0.3	PCT	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	7.25	UG/KG	M
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B06	WB	WB C OutHH	SurfaceLocation	0	9.1	CM	METAL	ZINC	115	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	9.1	39.6	CM	METAL	ZINC	91	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	39.6	70.1	CM	METAL	ZINC	29	MG/KG	D
1993/4	B06	WB	WB C OutHH	BoringLocation	85.3	94.5	CM	METAL	ZINC	24	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	4.1666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	4.1666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	4.8666667	UG/KG	M
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	25.333333	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	41.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	82.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	41.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	41.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	41.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	41.666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	41.666667	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	8.8333333	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	M
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	153.33333	UG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	130	UG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	126.66667	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	140	UG/KG	M
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	COPPER	37	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.0666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.0666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.0666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.0666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	2.0666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	4.1666667	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	GRAIN	FINES	67.9667	PCT	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	266.66667	UG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	63.333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	4.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.0333333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	123.33333	UG/KG	M
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	LEAD	20.666667	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.2366667	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	123.33333	UG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	NICKEL	76	MG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	130	UG/KG	M
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	306.66667	UG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.9	PCT	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	10.333333	UG/KG	D
1993/4	B07	WB	WB C	SurfaceLocation	0	9.1	CM	METAL	ZINC	83.666667	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	113.33333	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	2.975	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	2.975	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	2.975	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	84	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	12	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	7.3	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	5.8	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	6.6	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	29.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	59.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	48	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	47	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	47	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	29.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	29.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	29.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	31	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	29.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	4.4	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	2.6	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	2.5	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	2.7	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	133.33333	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	156.66667	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	153.33333	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	95.5	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	71	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	60	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	76	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	COPPER	14.75	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	COPPER	6.6	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	COPPER	5.2	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	COPPER	5.6	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	1.475	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	1.475	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	1.475	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	1.475	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	1.475	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	1.2	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	2.975	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	GRAIN	FINES	35.5333	PCT	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	GRAIN	FINES	7.6	PCT	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	GRAIN	FINES	21.5	PCT	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	GRAIN	FINES	9.4	PCT	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	146.66667	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	56.666667	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	44	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	44	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	44	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	4.2	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	0.75	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	0.6	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	0.59	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	130	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	LEAD	8.725	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	LEAD	5.4	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	LEAD	3	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	LEAD	3.7	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.145	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.04	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.04	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.03	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	NICKEL	45	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	NICKEL	28	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	NICKEL	24	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	NICKEL	28	MG/KG	D
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	113.33333	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	143.33333	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	84	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.425	PCT	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	9.25	UG/KG	M
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B08	WB	WB C shore	SurfaceLocation	0	9.1	CM	METAL	ZINC	55.5	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	9.1	39.6	CM	METAL	ZINC	29	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	39.6	70.1	CM	METAL	ZINC	22	MG/KG	D
1993/4	B08	WB	WB C shore	BoringLocation	85.3	94.5	CM	METAL	ZINC	27	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	100	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	2.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	5.2	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	3.3	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	12	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	2.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	2.9	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	3.3	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	5.6	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	5.43	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	2.9	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	3.3	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	3.1	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	126.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	100	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	110	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	170	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	6.7333333	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	0.8	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	0.8	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	0.6666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	0.8	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	0.8	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	0.6666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	0.8	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	0.8	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	160	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	200	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	8.1666667	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	17	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	21	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	21	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	29	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	33	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	31	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	54.333333	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	58	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	66	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	63	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	29	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	33	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	31	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	29	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	33	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	31	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	29	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	33	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	31	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	52	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	121	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	94	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	27	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	29	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	33	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	31	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	3.7	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	7.9	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	10	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	12	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	250	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	440	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	430	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	126.66667	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	420	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	770	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	820	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	160	UG/KG	M
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	450	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	750	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	750	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	130	UG/KG	M
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	400	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	690	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	750	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	250	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	280	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.37	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.57	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.7	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	95	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	110	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	130	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	120	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	320	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	590	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	540	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	COPPER	9.8	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	COPPER	23	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	COPPER	37	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	COPPER	35	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	100	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	1.4	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	1.6	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	1.6	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	1.3666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	1.6	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	1.3666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	1.4	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	1.6	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	1.6	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	1.3666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	1.4	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	1.6	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	1.6	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	2.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	1.4	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	1.6	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	1.6	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	2.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	2.9	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	3.3	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	3.1	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	GRAIN	FINES	26.0333	PCT	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	GRAIN	FINES	61.8	PCT	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	GRAIN	FINES	84.6	PCT	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	GRAIN	FINES	94.3	PCT	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	450	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	1000	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	1100	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	65	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	58	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	64	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	69	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	6.7333333	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	0.8	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	0.8	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	0.6666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	0.8	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	0.8	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	6.7333333	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	72	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	82	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	78	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	0.6666667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	0.7	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	0.8	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	0.8	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	330	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	660	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	660	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	LEAD	6.6666667	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	LEAD	20	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	LEAD	25	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	LEAD	30	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.1866667	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.27	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.48	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.39	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	110	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	100	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	NICKEL	30.666667	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	NICKEL	59	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	NICKEL	77	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	NICKEL	75	MG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	126.66667	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	270	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	520	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	600	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	136.66667	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	900	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	1600	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	1500	UG/KG	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.2	PCT	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	0.6	PCT	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.9	PCT	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	1.2	PCT	D
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	9	UG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B09	WB	WB S	SurfaceLocation	0	9.1	CM	METAL	ZINC	38	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	9.1	39.6	CM	METAL	ZINC	91	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	39.6	70.1	CM	METAL	ZINC	130	MG/KG	D
1993/4	B09	WB	WB S	BoringLocation	85.3	94.5	CM	METAL	ZINC	150	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	4.23	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	4.23	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	4.23	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.067	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	1.067	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.067	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	21.67	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	42.33	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	84.67	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	42.33	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	42.33	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	42.333333	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	42.333333	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	42.333333	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	7.6	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	155	UG/KG	M
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	185	UG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	155	UG/KG	M
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	120	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	COPPER	27.333333	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	2.1	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.1	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	2.1	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	4.2333333	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	GRAIN	FINES	64.1667	PCT	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	232.5	UG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	70.75	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	1.0666667	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.0666667	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	1.0666667	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.0666667	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	LEAD	16.666667	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.8466667	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	NICKEL	52.333333	MG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	137.5	UG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	290	UG/KG	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.8333333	PCT	D
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	18.666667	UG/KG	M
1993/4	B11	WB	SS	SurfaceLocation	0	9.1	CM	METAL	ZINC	92.666667	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	2-METHYLNAPHTHALENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	2-METHYLNAPHTHALENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	2-METHYLNAPHTHALENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	3.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDD	8.1	UG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDD	3	UG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDD	2.5	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	3.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDE	5.6	UG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDE	3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDE	2.5	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	3.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	DDT 44	4,4'-DDT	4.7	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	DDT 44	4,4'-DDT	3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	DDT 44	4,4'-DDT	2.5	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	ACENAPHTHYLENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	ACENAPHTHYLENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	ACENAPHTHYLENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	0.825	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ALDRIN	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ALDRIN	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ALDRIN	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	0.825	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ALPHA-BHC	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ALPHA-BHC	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ALPHA-BHC	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	0.825	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ALPHA-CHLORDANE	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ALPHA-CHLORDANE	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ALPHA-CHLORDANE	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	ANTHRACENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	ANTHRACENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	ANTHRACENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	11.5	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	ANTIMONY	42	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	ANTIMONY	15	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	ANTIMONY	8.1	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	33	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1016	47	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1016	30	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1016	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	66.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1221	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1221	61	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1221	51	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	33	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1232	47	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1232	30	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1232	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	33	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1242	47	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1242	30	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1242	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	33	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1248	47	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1248	30	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1248	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	37.75	UG/KG	M
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1254	47	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1254	50	UG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1254	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	33	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	AROCLOR	AROCLOR-1260	47	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	AROCLOR	AROCLOR-1260	30	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	AROCLOR	AROCLOR-1260	25	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	5.35	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	ARSENIC	15	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	ARSENIC	6.6	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	ARSENIC	3.7	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)ANTHRACENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)ANTHRACENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(A)PYRENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(A)PYRENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(A)PYRENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	120	UG/KG	M
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(B)FLUORANTHENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	240	UG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	180	UG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	BENZO(K)FLUORANTHENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	CADMIUM	0.77	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	CADMIUM	0.34	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	98	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	CHROMIUM	160	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	CHROMIUM	95	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	CHROMIUM	70	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	CHRYSENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	CHRYSENE	93	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	CHRYSENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	COPPER	20.5	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	COPPER	60	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	COPPER	24	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	COPPER	6.5	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	1.65	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	DIELDRIN	2.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	DIELDRIN	1.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	DIELDRIN	1.3	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	1.65	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN I	2.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN I	1.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN I	1.3	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	1.65	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN II	2.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN II	1.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN II	1.3	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	1.65	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ENDOSULFAN SULFATE	2.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ENDOSULFAN SULFATE	1.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ENDOSULFAN SULFATE	1.3	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	16.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ENDRIN	2.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ENDRIN	1.5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ENDRIN	1.3	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	3.3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	ENDRIN ALDEHYDE	4.7	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	ENDRIN ALDEHYDE	3	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	ENDRIN ALDEHYDE	2.5	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	GRAIN	FINES	41.5	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	GRAIN	FINES	92.4	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	GRAIN	FINES	44.4	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	GRAIN	FINES	15.9	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	126.66667	UG/KG	M
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	FLUORANTHENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	FLUORANTHENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	FLUORANTHENE	120	UG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	60	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	FLUORENE	45	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	FLUORENE	49	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	FLUORENE	51	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	0.825	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	GAMMA-BHC	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	GAMMA-BHC	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	GAMMA-BHC	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	0.825	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	GAMMA-CHLORDANE	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	GAMMA-CHLORDANE	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	GAMMA-CHLORDANE	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	8	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	0.825	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PEST	HEPTACHLOR EPOXIDE	1.2	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PEST	HEPTACHLOR EPOXIDE	0.76	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PEST	HEPTACHLOR EPOXIDE	0.63	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	150	UG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	LEAD	11.5	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	LEAD	42	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	LEAD	16	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	LEAD	4.5	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.225	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	MERCURY	0.85	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	MERCURY	0.45	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	MERCURY	0.15	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	116.66667	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	NAPHTHALENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	NAPHTHALENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	NAPHTHALENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	NICKEL	41	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	NICKEL	110	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	NICKEL	54	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	NICKEL	23	MG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	116.66667	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH LOW	PHENANTHRENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH LOW	PHENANTHRENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH LOW	PHENANTHRENE	99	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	140	UG/KG	M
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	PAH HIGH	PYRENE	86	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	PAH HIGH	PYRENE	93	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	PAH HIGH	PYRENE	190	UG/KG	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.575	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	TOC	TOTAL ORGANIC CARBON	1.2	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	TOC	TOTAL ORGANIC CARBON	0.5	PCT	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	TOC	TOTAL ORGANIC CARBON	0.2	PCT	D
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	M
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B12	WB	SS OutU	SurfaceLocation	0	9.1	CM	METAL	ZINC	71.75	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	9.1	39.6	CM	METAL	ZINC	160	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	39.6	70.1	CM	METAL	ZINC	72	MG/KG	D
1993/4	B12	WB	SS OutU	BoringLocation	85.3	94.5	CM	METAL	ZINC	28	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	5.267	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	5.267	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	5.267	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	1.3	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	12.8	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.3	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	34	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	507.33333	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	1013	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	340.66667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	340.66667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	52.666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	52.666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	52.666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	12.333333	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	125	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	137.5	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	122.5	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	126.66667	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	COPPER	47.666667	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	16.9	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.6666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.6666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.6666667	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	16.9	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	34.1	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	GRAIN	FINES	83.0667	PCT	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	157.5	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	63.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	12.8	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.3	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	8.6	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.3	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	LEAD	24.666667	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.3433333	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	122.5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	NICKEL	90	MG/KG	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	122.5	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	175	UG/KG	M
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.25	MG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	0.8333333	PCT	D
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B13	WB	WB C off	SurfaceLocation	0	9.1	CM	METAL	ZINC	116.33333	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	2-METHYLNAPHTHALENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDD	5.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDE	7.275	UG/KG	M
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	DDT 44	4,4'-DDT	11	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	ACENAPHTHYLENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ALDRIN	13.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ALPHA-BHC	1.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ALPHA-CHLORDANE	1.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	ANTHRACENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	ANTIMONY	35.75	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1016	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1221	106.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1232	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1242	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1248	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1254	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	AROCLOR	AROCLOR-1260	53.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	ARSENIC	10.75	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)ANTHRACENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(A)PYRENE	175	UG/KG	M
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(B)FLUORANTHENE	232.5	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	165	UG/KG	M
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	BENZO(K)FLUORANTHENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	CADMIUM	0.25	MG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	CHROMIUM	152.5	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	CHRYSENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	COPPER	39	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	DIELDRIN	5.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN I	2.65	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN II	2.65	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ENDOSULFAN SULFATE	2.65	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ENDRIN	5.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	ENDRIN ALDEHYDE	5.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	GRAIN	FINES	91	PCT	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	FLUORANTHENE	412.5	UG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	FLUORENE	84	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	GAMMA-BHC	13.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	GAMMA-CHLORDANE	1.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR	13.5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PEST	HEPTACHLOR EPOXIDE	1.35	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	LEAD	23.25	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	MERCURY	0.3875	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	NAPHTHALENE	160	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	NICKEL	70.5	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH LOW	PHENANTHRENE	225	UG/KG	M
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	PAH HIGH	PYRENE	430	UG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	SELENIUM	0.275	MG/KG	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	SILVER	0.5	MG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	TOC	TOTAL ORGANIC CARBON	1.375	PCT	D
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	TBT	TRIBUTYL TIN	5	UG/KG	U
1993/4	B14	WB	WB N off	SurfaceLocation	0	9.1	CM	METAL	ZINC	125	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	250	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.95	MG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	50	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	25	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	3.7	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.06	MG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	34.9	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	COPPER	23.1	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	TPH	DRO	15	MG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.5	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	GRAIN	FINES	23.1	PCT	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	120	UG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.3	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.3	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	LEAD	10.8	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.07	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	NICKEL	35.1	MG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	250	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	140	UG/KG	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.92	MG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.18	MG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.0581	PCT	D
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2.4	UG/KG	U
1996	SS001	WB	SS OutT	SurfaceLocation	0	15.2	CM	METAL	ZINC	65.9	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.9	MG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	23	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	47	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	23	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	23	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	23	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	13	UG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	23	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	3.4	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	230	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.06	MG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	38	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	COPPER	15.1	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	TPH	DRO	15	MG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.3	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	GRAIN	FINES	23.3	PCT	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	120	UG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.2	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	LEAD	9.9	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.11	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	NICKEL	34.1	MG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	230	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	120	UG/KG	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.88	MG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.17	MG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.0705	PCT	D
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2.4	UG/KG	U
1996	SS002	WB	SS OutS	SurfaceLocation	0	15.2	CM	METAL	ZINC	54	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.79	MG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	41	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	20	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	2.7	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	24.4	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	COPPER	9.2	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	TPH	DRO	13	MG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	GRAIN	FINES	9.6	PCT	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	LEAD	6	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.06	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	NICKEL	22.6	MG/KG	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.76	MG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.15	MG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.135	PCT	D
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	SS006	WB	SS OutRW	SurfaceLocation	0	15.2	CM	METAL	ZINC	38.6	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.33	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.53	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.61	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.22	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.24	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	2	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	1.9	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	3.3	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.79	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	0.97	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	1.18	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.6	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	0.74	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	0.76	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	2.8	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	2.5	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	8.1	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	5.1	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	5.7	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	9.7	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	13	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	12	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	33	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.04	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.06	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.12	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	3.55	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	ARSENIC	3.65	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	ARSENIC	4.02	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	31	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	33	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	69	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	58	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	66	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	160	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	38	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	43	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	93	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	52	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	63	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	140	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	38	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	42	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	100	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.181	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.176	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.387	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	54.7	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	58.2	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	58.5	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	45	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	47	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	86	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	COPPER	17.2	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	COPPER	19.6	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	COPPER	18	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.3	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	5	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	13	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	1	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	1.1	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	1.4	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.36	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.34	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.13	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.3	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.32	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.31	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	GRAIN	FINES	42.16	PCT	D
2005	WB C-1	WB	SS	CORE	5	25	CM	GRAIN	FINES	44.53	PCT	D
2005	WB C-1	WB	SS	CORE	25	50	CM	GRAIN	FINES	54.62	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	79	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	87	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	170	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	3.7	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	3.4	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	5.8	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	46	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	54	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	140	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	LEAD	11.4	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	LEAD	12.9	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	LEAD	15.2	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	MERCURY	0.186	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.163	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.228	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	6	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	9.7	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	12	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	NICKEL	42.2	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	NICKEL	44.4	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	NICKEL	45.4	MG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB101	0.56	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB105	0.24	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB105	0.3	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB105	0.35	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB110	0.22	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB110	0.4	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB110	0.76	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB118	0.46	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB118	0.6	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB118	0.83	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB128	0.2	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB128	0.29	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB128	0.33	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB138	0.89	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB138	1.11	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB138	1.58	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB153	1.18	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB153	1.48	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB153	2.08	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB170	0.54	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB170	0.63	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB170	0.71	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB180	0.84	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB180	0.99	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB180	1.18	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB187	0.41	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB187	0.49	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB187	0.71	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB195	0.54	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB195	0.58	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB206	0.65	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB206	0.69	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB206	0.72	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB209	0.9	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB209	1.24	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB209	1.87	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	CON	PCB8	0.01	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	34	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	32	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	79	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	100	UG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	110	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	190	UG/KG	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.31	MG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.29	MG/KG	U
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.33	MG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.131	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	SILVER	0.148	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	SILVER	0.233	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-1	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.48	PCT	D
2005	WB C-1	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.5	PCT	D
2005	WB C-1	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.56	PCT	D
2005	WB C-1	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.089	UG/KG	U
2005	WB C-1	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.25	UG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.082	UG/KG	U
2005	WB C-1	WB	SS	GRAB	0	5	CM	METAL	ZINC	43.7	MG/KG	D
2005	WB C-1	WB	SS	CORE	5	25	CM	METAL	ZINC	47.2	MG/KG	D
2005	WB C-1	WB	SS	CORE	25	50	CM	METAL	ZINC	47.8	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	1.2	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.99	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.28	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.83	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDD	0.83	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDD	0.37	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.72	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDE	0.71	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDE	0.33	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDT	1.11	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDT	0.55	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	2.2	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	1.3	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	0.35	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	6	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	2	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.82	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	ANTHRACENE	15	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	ANTHRACENE	7	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	ANTHRACENE	1.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	ANTIMONY	0.04	MG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	ARSENIC	3.87	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	ARSENIC	5.14	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	ARSENIC	2.06	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	38	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	14	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	4.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	58	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	25	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	8.2	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	39	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	25	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	5.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	49	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	25	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	7.2	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	37	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	8.9	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	5.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	CADMIUM	0.281	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	CADMIUM	0.14	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	CADMIUM	0.055	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	CHROMIUM	50.5	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	CHROMIUM	65.5	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	CHROMIUM	33.4	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	CHRYSENE	47	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	CHRYSENE	20	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	CHRYSENE	6.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	COPPER	14.6	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	COPPER	23	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	COPPER	8.52	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	6.7	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.1	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.68	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.61	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH	DIBENZOFURAN	0.4	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH	DIBENZOFURAN	0.16	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN II	0.14	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.27	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.33	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	GRAIN	FINES	37.03	PCT	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	GRAIN	FINES	51.39	PCT	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	GRAIN	FINES	12.72	PCT	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	83	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	33	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	10	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	FLUORENE	3	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	FLUORENE	1.4	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	FLUORENE	0.36	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	47	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	24	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	6.6	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	LEAD	11.3	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	LEAD	15.1	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	LEAD	5.51	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	MERCURY	0.204	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	MERCURY	0.124	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	MERCURY	0.0572	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	4.6	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2.7	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	NAPHTHALENE	0.92	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	NICKEL	41.2	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	NICKEL	51.1	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	NICKEL	28.9	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB101	2.19	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB105	0.61	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB105	0.22	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB105	0.13	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB110	1.76	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB110	0.11	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB118	1.7	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB118	0.39	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB118	0.13	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB128	0.51	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB128	0.2	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB128	0.14	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB138	2.91	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB138	0.65	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB138	0.31	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB153	3.75	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB153	0.99	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB153	0.53	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB170	1.03	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB170	0.61	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB170	0.4	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB18	0.16	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB180	1.78	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB180	0.89	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB180	0.46	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB187	1.03	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB187	0.37	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB187	0.2	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB195	0.59	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB195	0.56	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB195	0.42	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB206	0.7	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB206	0.71	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB206	0.51	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB209	0.92	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB209	0.63	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB209	0.44	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB44	0.15	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB52	1.37	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB66	0.19	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	39	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH LOW	PHENANTHRENE	15	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH LOW	PHENANTHRENE	4.3	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	PAH HIGH	PYRENE	110	UG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	PAH HIGH	PYRENE	44	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	PAH HIGH	PYRENE	14	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	SELENIUM	0.2	MG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	SELENIUM	0.29	MG/KG	U
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	SELENIUM	0.2	MG/KG	U
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	SILVER	0.168	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	SILVER	0.142	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	SILVER	0.042	MG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.44	PCT	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.78	PCT	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.26	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-10	WB	WB C	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.075	UG/KG	U
2005	WB C-10	WB	WB C	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.62	UG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.32	UG/KG	D
2005	WB C-10	WB	WB C	GRAB	0	5	CM	METAL	ZINC	39.1	MG/KG	D
2005	WB C-10	WB	WB C	CORE	5	25	CM	METAL	ZINC	55.7	MG/KG	D
2005	WB C-10	WB	WB C	CORE	25	50	CM	METAL	ZINC	24.7	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDE	0.26	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	1	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.42	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	1	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.62	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDD	0.43	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDD	0.98	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.61	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDE	0.43	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDE	0.71	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.44	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	1.7	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	2.1	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	8.3	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	1.5	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.36	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	1.7	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.18	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.16	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	ANTHRACENE	6.8	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	ANTHRACENE	2.9	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	ANTHRACENE	19	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	ANTIMONY	0.04	MG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	ANTIMONY	0.04	MG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	ARSENIC	2.68	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	ARSENIC	1.95	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	ARSENIC	1.93	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	18	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	16	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	14	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	29	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	28	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	21	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	22	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	22	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	14	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	24	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	22	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	20	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	20	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	20	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	13	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	CADMIUM	0.049	MG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	CADMIUM	0.03	MG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	CADMIUM	0.092	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	CHROMIUM	39.5	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	CHROMIUM	34.3	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	CHROMIUM	31.3	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	CHRYSENE	24	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	CHRYSENE	21	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	CHRYSENE	16	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	COPPER	9.46	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	COPPER	5.88	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	COPPER	7.18	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.2	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.3	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.8	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.82	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH	DIBENZOFURAN	0.41	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH	DIBENZOFURAN	4.1	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.28	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	GRAIN	FINES	16.43	PCT	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	GRAIN	FINES	17.97	PCT	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	GRAIN	FINES	5.76	PCT	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	40	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	28	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	150	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	FLUORENE	1.7	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	FLUORENE	0.73	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	FLUORENE	18	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.21	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.18	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	25	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	24	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	17	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	LEAD	7.53	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	LEAD	5.14	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	LEAD	4.69	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	MERCURY	0.0592	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	MERCURY	0.0443	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	MERCURY	0.0802	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	2.1	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	NAPHTHALENE	0.82	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	NAPHTHALENE	3.9	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	NICKEL	26.3	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	NICKEL	21.5	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	NICKEL	26.4	MG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB101	0.61	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB105	0.04	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB105	0.01	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB105	0.17	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB110	0.1	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB110	0.56	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB118	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB118	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB118	0.43	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB129	0.04	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB138	0.2	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB138	0.07	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB138	0.84	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB153	0.39	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB153	0.18	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB153	1.15	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB170	0.13	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB170	0.06	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB170	0.3	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB180	0.27	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB180	0.09	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB180	0.48	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB187	0.05	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB195	0.04	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB195	0.02	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB195	0.08	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB206	0.08	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB209	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB209	0.04	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	19	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH LOW	PHENANTHRENE	9.4	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH LOW	PHENANTHRENE	43	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	PAH HIGH	PYRENE	42	UG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	PAH HIGH	PYRENE	28	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	PAH HIGH	PYRENE	120	UG/KG	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-226	0.05	PCI/G	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	RAD	RADIUM-226	0.16	PCI/G	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	RAD	RADIUM-226	0.1	PCI/G	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-228	0.26	PCI/G	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	RAD	RADIUM-228	0.74	PCI/G	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	RAD	RADIUM-228	0.39	PCI/G	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	SELENIUM	0.25	MG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	SELENIUM	0.24	MG/KG	U
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	SELENIUM	0.21	MG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	SILVER	0.06	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	SILVER	0.03	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	SILVER	0.056	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-11	WB	WB C	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.38	PCT	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.17	PCT	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.29	PCT	D
2005	WB C-11	WB	WB C	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.075	UG/KG	U
2005	WB C-11	WB	WB C	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.34	UG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.07	UG/KG	U
2005	WB C-11	WB	WB C	GRAB	0	5	CM	METAL	ZINC	27.7	MG/KG	D
2005	WB C-11	WB	WB C	CORE	5	25	CM	METAL	ZINC	19.2	MG/KG	D
2005	WB C-11	WB	WB C	CORE	25	50	CM	METAL	ZINC	21.6	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDE	0.32	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	2.2	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.68	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	3.3	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.77	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDD	0.58	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDD	1.81	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.56	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDE	0.53	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDE	0.69	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.49	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDT	0.42	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDT	1.4	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	24	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	2.1	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	3.6	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	1.1	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.77	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	8.5	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.19	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.19	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.19	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	ANTHRACENE	14	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	ANTHRACENE	3.4	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	ANTHRACENE	19	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	ANTIMONY	0.06	MG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	ANTIMONY	0.18	MG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	ARSENIC	2.73	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	ARSENIC	2.62	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	ARSENIC	4.1	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	170	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	13	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	46	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	360	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	27	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	120	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	230	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	18	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	85	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	260	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	22	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	110	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	250	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	19	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	63	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	CADMIUM	0.076	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	CADMIUM	0.07	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	CADMIUM	0.425	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	CHROMIUM	42	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	CHROMIUM	33.2	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	CHROMIUM	53.8	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	CHRYSENE	240	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	CHRYSENE	17	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	CHRYSENE	60	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	COPPER	8.7	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	COPPER	7.73	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	COPPER	20.8	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	46	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.3	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	12	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH	DIBENZOFURAN	2.2	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH	DIBENZOFURAN	0.54	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH	DIBENZOFURAN	1.8	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.88	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	GRAIN	FINES	10.5	PCT	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	GRAIN	FINES	8.27	PCT	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	GRAIN	FINES	27.5	PCT	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	170	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	24	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	110	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	FLUORENE	4.4	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	FLUORENE	1.2	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	FLUORENE	3.5	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.22	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.23	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.24	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	310	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	23	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	100	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	LEAD	13.2	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	LEAD	10.5	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	LEAD	28.8	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	MERCURY	0.0509	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	MERCURY	0.0414	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	MERCURY	0.0797	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	3.8	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	NAPHTHALENE	1.6	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	NAPHTHALENE	11	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	NICKEL	25.5	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	NICKEL	24.6	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	NICKEL	32.1	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB101	0.02	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB101	0.11	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB101	1.18	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB105	0.06	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB105	0.07	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB105	0.24	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB110	0.21	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB110	0.28	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB110	1.08	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB118	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB118	0.12	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB118	0.66	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB129	0.08	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB138	0.4	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB138	0.49	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB138	1.48	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB153	0.68	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB153	0.55	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB153	2.13	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB170	0.16	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB170	0.19	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB170	0.52	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB180	0.27	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB180	0.38	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB180	1	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB187	0.38	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB195	0.07	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB195	0.19	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB206	0.04	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB206	0.23	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB209	1.19	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB209	1.23	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB209	0.33	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB52	0.16	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB66	0.24	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	CON	PCB8	0.74	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	43	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH LOW	PHENANTHRENE	11	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH LOW	PHENANTHRENE	41	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	PAH HIGH	PYRENE	190	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	PAH HIGH	PYRENE	31	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	PAH HIGH	PYRENE	160	UG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-226	0.13	PCI/G	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	RAD	RADIUM-226	0.038	PCI/G	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	RAD	RADIUM-226	0.29	PCI/G	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-228	0.33	PCI/G	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	RAD	RADIUM-228	0.16	PCI/G	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	RAD	RADIUM-228	0.44	PCI/G	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	SELENIUM	0.15	MG/KG	U
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	SELENIUM	0.21	MG/KG	U
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	SELENIUM	0.33	MG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	SILVER	0.048	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	SILVER	0.04	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	SILVER	0.32	MG/KG	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.28	PCT	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.24	PCT	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	1.11	PCT	D
2005	WB C-12	WB	WB C	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.48	UG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.52	UG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.08	UG/KG	U
2005	WB C-12	WB	WB C	GRAB	0	5	CM	METAL	ZINC	29.5	MG/KG	D
2005	WB C-12	WB	WB C	CORE	5	25	CM	METAL	ZINC	27.8	MG/KG	D
2005	WB C-12	WB	WB C	CORE	25	50	CM	METAL	ZINC	56.6	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	3.4	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	2.2	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	1.8	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.67	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	0.65	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	0.64	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.5	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	0.46	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	0.4	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.53	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.37	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	37	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	13	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	23	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	8.1	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	4.6	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.95	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	31	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	14	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	19	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.09	MG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.07	MG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.12	MG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	3.25	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	2.86	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	2.69	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	230	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	83	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	130	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	460	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	230	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	270	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	160	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	290	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	96	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	140	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	320	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	95	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	160	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.117	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.15	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.181	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	48.2	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	36.9	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	39.5	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	310	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	110	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	180	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	COPPER	13	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	COPPER	11.4	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	COPPER	136	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	78	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	19	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	26	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	3.7	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	1.5	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	1.9	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	GRAIN	FINES	29.62	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	250	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	170	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	9.9	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	5.5	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	5.3	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	360	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	100	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	170	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	LEAD	12	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	LEAD	11.4	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	LEAD	91.1	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.078	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.0157	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	5.1	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	7.6	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	2.6	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	40	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	NICKEL	41.9	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	NICKEL	39.7	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB105	0.17	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB105	0.16	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB105	0.18	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB110	0.19	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB110	0.14	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB110	0.09	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB118	0.38	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB118	0.29	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB118	0.37	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB128	0.23	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB128	0.18	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB128	0.18	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB138	0.9	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB138	0.64	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB138	0.55	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB153	1.3	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB153	0.96	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB153	0.89	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB170	0.56	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB170	0.51	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB170	0.51	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB180	0.87	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB180	0.76	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB180	0.8	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB187	0.44	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB187	0.34	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB187	0.44	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB195	0.46	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB195	0.47	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB195	0.46	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB206	0.56	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB206	0.55	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB206	0.63	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB209	0.51	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB209	0.92	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB209	0.5	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	100	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	71	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	78	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	280	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	160	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	220	UG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.18	MG/KG	U
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.21	MG/KG	U
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.17	MG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	SILVER	0.101	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.07	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.086	MG/KG	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.26	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-13	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.2	PCT	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.19	PCT	D
2005	WB C-13	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.39	UG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.39	UG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.42	UG/KG	U
2005	WB C-13	WB	SKR	GRAB	0	5	CM	METAL	ZINC	35.9	MG/KG	D
2005	WB C-13	WB	SKR	CORE	5	25	CM	METAL	ZINC	33.2	MG/KG	D
2005	WB C-13	WB	SKR	CORE	25	50	CM	METAL	ZINC	46.7	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	1.99	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	1.53	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	4.3	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	8	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	9.1	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	2.15	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	1.64	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	1.53	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	0.76	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.85	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.47	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	7.3	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	34	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	39	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	6.2	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	9.5	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	13	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	24	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	280	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	120	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.14	MG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.2	MG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.15	MG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	5.44	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	4.5	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	5.07	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	83	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	770	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	380	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	150	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	820	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	570	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	820	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	430	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	120	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	560	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	380	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	100	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	630	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	400	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.306	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.322	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.411	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	61.4	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	65.7	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	61.1	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	120	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	900	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	530	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	COPPER	32.3	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	COPPER	30.3	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	COPPER	24.7	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	20	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	120	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	57	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	4	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	22	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	15	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.42	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.39	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.34	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	GRAIN	FINES	51.4	PCT	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	56.88	PCT	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	160	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	1800	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	660	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	7.2	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	56	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	31	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	120	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	620	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	420	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	LEAD	27.2	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	LEAD	26.9	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	LEAD	23.9	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.3	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.214	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	MERCURY	0.167	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	12	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	16	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	31	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	50.3	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	NICKEL	46.2	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	NICKEL	51.2	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB101	1.4	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB101	0.72	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB105	0.55	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB105	0.35	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB110	1.46	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB110	0.86	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB118	1.49	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB118	0.86	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB128	0.61	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB128	0.33	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB138	3.21	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB138	1.52	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB153	4.5	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB153	2.37	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB170	1.39	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB170	0.74	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB180	2.93	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB180	1.26	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB187	1.49	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB187	0.71	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB195	0.74	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB195	0.52	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB206	0.85	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB206	0.65	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB209	1.4	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB209	1.07	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB52	0.36	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB52	0.22	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	63	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	1100	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	290	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	170	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	1700	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	730	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.37	MG/KG	U
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.34	MG/KG	U
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.33	MG/KG	U
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	SILVER	0.435	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.229	MG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.438	MG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.85	PCT	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.74	PCT	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	1.34	PCT	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	1.6	UG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	4	UG/KG	D
2005	WB C-14	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.55	UG/KG	D
2005	WB C-14	WB	SKR	GRAB	0	5	CM	METAL	ZINC	80.4	MG/KG	D
2005	WB C-14	WB	SKR	CORE	5	25	CM	METAL	ZINC	63.7	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-14	WB	SKR	CORE	25	50	CM	METAL	ZINC	53.7	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.36	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	4	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	4.3	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	5.2	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.99	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	2.63	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	4.19	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.33	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	1.73	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	1.96	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.74	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.59	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	12	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	14	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	26	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	7.8	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	11	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	14	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.21	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.02	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	31	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	25	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	170	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.16	MG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.28	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	5.51	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	3.57	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	4.17	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	150	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	110	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	360	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	330	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	230	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	490	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	280	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	170	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	410	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	260	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	170	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	310	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	220	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	140	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	360	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.292	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.208	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.414	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	89.8	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	56.2	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	41.8	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	230	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	150	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	460	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	COPPER	31.1	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	COPPER	20.3	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	COPPER	29	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	36	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	24	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	66	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	3.8	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	4.7	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	6	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.36	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.28	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	49.63	PCT	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	GRAIN	FINES	34.72	PCT	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	GRAIN	FINES	26.69	PCT	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	260	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	640	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	7.3	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	7.6	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	12	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.11	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	170	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	360	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	LEAD	24.5	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	LEAD	18.8	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	LEAD	25	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.211	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.138	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	MERCURY	0.176	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	13	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	13	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	13	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	47.3	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	NICKEL	33.8	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	NICKEL	32.1	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB101	1.5	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB101	3.63	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB101	6.18	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB105	0.06	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB105	0.97	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB105	1.6	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB110	1.77	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB110	3.36	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB110	5.31	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB118	1.6	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB118	3.66	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB118	4.54	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB128	0.46	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB128	1.91	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB128	1.32	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB138	2.8	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB138	5.48	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB138	7.32	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB153	3.87	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB153	7.37	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB153	9.45	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB170	1.16	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB170	1.64	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB170	1.88	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB18	0.17	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB180	2.2	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB180	3.69	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB180	4.3	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB187	1.22	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB187	1.81	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB187	2.7	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB195	0.75	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB195	0.61	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB195	0.73	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB206	0.86	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB206	0.69	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB206	0.81	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB209	5.3	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB209	1.5	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB209	1.41	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB28	0.26	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB44	0.42	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB44	1.11	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB52	0.75	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB52	1.8	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB52	3.52	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB66	0.41	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB66	0.97	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	89	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	81	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	170	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	290	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	260	UG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	570	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	RAD	RADIUM-226	0.08	PCI/G	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	RAD	RADIUM-226	0.18	PCI/G	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	RAD	RADIUM-226	0.18	PCI/G	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	RAD	RADIUM-228	0.38	PCI/G	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	RAD	RADIUM-228	0.23	PCI/G	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	RAD	RADIUM-228	0.26	PCI/G	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.32	MG/KG	U
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.29	MG/KG	U
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.31	MG/KG	U
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	SILVER	1.17	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.176	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.276	MG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.11	PCT	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.82	PCT	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.76	PCT	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	1.7	UG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.2	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-15	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	1.6	UG/KG	D
2005	WB C-15	WB	SKR	GRAB	0	5	CM	METAL	ZINC	71.2	MG/KG	D
2005	WB C-15	WB	SKR	CORE	5	25	CM	METAL	ZINC	52.4	MG/KG	D
2005	WB C-15	WB	SKR	CORE	25	50	CM	METAL	ZINC	64.1	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	6.3	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	15	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	46	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDD	2.27	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDD	3.02	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDD	2.67	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.78	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDE	1.89	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDE	1.5	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDT	1.03	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDT	0.69	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDT	1.24	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	11	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	18	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	45	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	14	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	37	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	57	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ALPHA-BHC	0.05	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	ANTHRACENE	79	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	ANTHRACENE	220	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	ANTHRACENE	180	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	ANTIMONY	0.11	MG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	ANTIMONY	0.08	MG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	ANTIMONY	0.13	MG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	ARSENIC	4.97	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	ARSENIC	5.11	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	ARSENIC	8.71	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	150	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	330	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	370	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	320	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	1100	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	1000	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	290	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1100	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	950	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	190	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	460	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	600	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	780	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	650	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	CADMIUM	0.303	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	CADMIUM	0.952	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	CADMIUM	0.509	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	CHROMIUM	64.3	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	CHROMIUM	62.5	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	CHROMIUM	57.6	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	CHRYSENE	280	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	CHRYSENE	780	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	CHRYSENE	620	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	COPPER	30.4	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	COPPER	31.1	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	COPPER	36.8	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	33	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	160	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	150	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH	DIBENZOFURAN	9.2	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH	DIBENZOFURAN	16	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH	DIBENZOFURAN	53	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	DIELDRIN	0.72	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.18	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN II	0.14	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.41	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.35	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.33	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	GRAIN	FINES	48.74	PCT	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	GRAIN	FINES	41.59	PCT	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	GRAIN	FINES	55.94	PCT	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	240	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	420	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	680	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	FLUORENE	15	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	FLUORENE	28	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	FLUORENE	54	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	GAMMA-BHC	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	220	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	550	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	650	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	LEAD	27.1	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	LEAD	32.2	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	LEAD	30.6	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	MERCURY	0.267	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	MERCURY	0.241	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	MERCURY	0.322	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	22	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	NAPHTHALENE	57	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	NAPHTHALENE	170	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	NICKEL	45.8	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	NICKEL	46	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	NICKEL	39.6	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB101	0.94	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB101	1.36	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB101	2.06	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB105	0.64	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB105	0.53	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB105	0.65	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB110	1.24	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB110	1.42	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB110	2.41	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB118	1.9	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB118	1.55	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB118	1.96	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB128	0.61	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB128	0.57	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB128	0.59	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB138	3.37	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB138	3.06	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB138	2.94	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB153	4.53	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB153	4.29	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB153	4.48	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB170	1.28	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB170	1.26	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB170	0.94	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB180	2.97	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB180	2.64	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB180	1.85	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB187	1.49	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB187	1.51	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB187	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB195	0.93	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB195	0.75	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB195	0.04	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB206	1.01	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB206	0.86	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB206	0.88	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB209	2.06	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB209	1.07	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB209	1.28	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB28	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB28	0.25	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB52	0.65	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB52	0.29	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB66	0.23	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	CON	PCB8	0.06	UG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	87	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH LOW	PHENANTHRENE	290	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH LOW	PHENANTHRENE	490	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	PAH HIGH	PYRENE	250	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	PAH HIGH	PYRENE	870	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	PAH HIGH	PYRENE	870	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	RAD	RADIUM-226	0.16	PCI/G	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	RAD	RADIUM-226	0.21	PCI/G	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	RAD	RADIUM-226	0.18	PCI/G	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	RAD	RADIUM-228	1.34	PCI/G	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	RAD	RADIUM-228	0.72	PCI/G	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	RAD	RADIUM-228	0.9	PCI/G	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	SELENIUM	0.33	MG/KG	U
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	SELENIUM	0.31	MG/KG	U
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	SELENIUM	0.33	MG/KG	U
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	SILVER	0.224	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	SILVER	0.219	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	SILVER	0.293	MG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.18	PCT	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	1.91	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-16	WB	WB N	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	2.87	PCT	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	TBT	TRIBUTYL TIN	1.3	UG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.8	UG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	TBT	TRIBUTYL TIN	1.1	UG/KG	D
2005	WB C-16	WB	WB N	GRAB	0	5	CM	METAL	ZINC	67.4	MG/KG	D
2005	WB C-16	WB	WB N	CORE	5	25	CM	METAL	ZINC	65.9	MG/KG	D
2005	WB C-16	WB	WB N	CORE	25	50	CM	METAL	ZINC	64.9	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 24	2,4'-DDT	0.08	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	7.8	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	7.3	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	5.5	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDD	2.56	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDD	1.74	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDD	0.6	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.8	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDE	1.03	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDE	0.03	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.82	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	DDT 44	4,4'-DDT	0.74	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	DDT 44	4,4'-DDT	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	8	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	8.6	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	2.9	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	17	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	34	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	7.1	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ALDRIN	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	ANTHRACENE	240	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	ANTHRACENE	270	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	ANTHRACENE	18	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	ANTIMONY	0.11	MG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	ANTIMONY	0.06	MG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	ANTIMONY	0.08	MG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	ARSENIC	5.21	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	ARSENIC	6.19	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	ARSENIC	7.8	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	310	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	780	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	49	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	490	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	1200	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	64	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	430	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1400	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	36	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	250	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	610	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	37	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	330	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	1100	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	45	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	CADMIUM	0.246	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	CADMIUM	0.223	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	CADMIUM	0.237	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	CHROMIUM	68.4	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	CHROMIUM	66.6	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	CHROMIUM	89.5	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	CHRYSENE	600	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	CHRYSENE	1600	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	CHRYSENE	60	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	COPPER	29.4	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	COPPER	26.2	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	COPPER	28	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	45	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	7.3	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH	DIBENZOFURAN	9.8	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH	DIBENZOFURAN	5.9	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH	DIBENZOFURAN	2.3	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	DIELDRIN	0.72	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.16	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN II	0.17	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN II	0.18	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.37	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.4	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.42	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	GRAIN	FINES	83.62	PCT	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	GRAIN	FINES	93.13	PCT	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	GRAIN	FINES	48.88	PCT	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	610	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	460	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	97	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	FLUORENE	32	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	FLUORENE	36	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	FLUORENE	7.8	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	270	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	760	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	39	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	LEAD	22.9	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	LEAD	20.9	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	LEAD	22.8	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	MERCURY	0.257	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	MERCURY	0.189	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	MERCURY	0.339	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	15	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	NAPHTHALENE	17	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	NAPHTHALENE	8.8	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	NICKEL	50.4	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	NICKEL	46.4	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	NICKEL	56.1	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB101	0.73	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB101	1.4	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB101	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB105	0.5	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB105	0.53	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB105	0.07	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB110	1.45	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB110	1.9	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB110	0.05	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB118	1.53	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB118	1.73	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB118	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB128	0.49	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB128	0.79	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB128	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB138	3.14	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB138	4.24	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB138	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB153	3.83	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB153	4.57	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB153	0.08	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB170	1.19	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB170	1.07	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB170	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB180	2.42	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB180	1.91	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB180	0.07	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB187	1.34	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB187	0.97	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB187	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB195	0.82	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB195	0.84	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB195	0.05	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB206	0.93	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB206	1.1	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB206	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB209	1.14	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB209	1.14	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB209	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB52	0.34	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB52	0.11	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB52	0.07	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	CON	PCB8	0.06	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	120	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH LOW	PHENANTHRENE	260	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH LOW	PHENANTHRENE	34	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	PAH HIGH	PYRENE	470	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	PAH HIGH	PYRENE	550	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	PAH HIGH	PYRENE	130	UG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	RAD	RADIUM-226	0.3	PCI/G	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	RAD	RADIUM-226	0.24	PCI/G	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	RAD	RADIUM-226	0.45	PCI/G	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	RAD	RADIUM-228	0.29	PCI/G	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	RAD	RADIUM-228	0.57	PCI/G	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	RAD	RADIUM-228	0.83	PCI/G	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	SELENIUM	0.37	MG/KG	U
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	SELENIUM	0.36	MG/KG	U
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	SELENIUM	0.34	MG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	SILVER	0.243	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	SILVER	0.166	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	SILVER	0.139	MG/KG	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	2.1	PCT	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	1.4	PCT	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	1.29	PCT	D
2005	WB C-17	WB	WB N	GRAB	0	5	CM	TBT	TRIBUTYL TIN	3	UG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.5	UG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.12	UG/KG	U
2005	WB C-17	WB	WB N	GRAB	0	5	CM	METAL	ZINC	65.2	MG/KG	D
2005	WB C-17	WB	WB N	CORE	5	25	CM	METAL	ZINC	55.6	MG/KG	D
2005	WB C-17	WB	WB N	CORE	25	50	CM	METAL	ZINC	52.3	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.45	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	1.1	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.34	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.4	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	2	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	0.3	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	0.86	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	0.26	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.97	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	1.7	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	11	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	1.6	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.14	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	1.7	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.36	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	2.3	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	11	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	1.7	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.14	MG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.15	MG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	2.63	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	2.64	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	1.49	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	22	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	180	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	21	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	38	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	330	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	39	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	23	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	290	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	31	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	30	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	240	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	33	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	19	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	25	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.149	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.111	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.046	MG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	30.5	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	29.1	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	33.2	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	32	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	250	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	30	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	COPPER	14.1	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	COPPER	14.4	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	COPPER	6.3	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.3	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	43	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	5	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.33	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	1.1	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	0.17	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.35	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	22	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	25	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	0.67	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	3.4	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	0.43	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	23	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	280	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	34	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	LEAD	30.8	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	LEAD	20.1	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	LEAD	3.25	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.0542	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.0322	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	MERCURY	0.0129	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	0.55	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2.2	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	0.77	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	20.2	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	NICKEL	21.9	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	NICKEL	29.9	MG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB101	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB101	0.35	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB105	0.06	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB105	0.29	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB105	0.12	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB110	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB110	0.69	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB118	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB118	2.33	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB118	0.07	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB128	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB128	1.83	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB138	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB138	3.87	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB138	0.29	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB153	0.54	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB153	7.78	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB153	0.54	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB170	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB170	1.56	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB170	0.41	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB180	0.06	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB180	4.49	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB180	0.42	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB187	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB187	2.53	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB187	0.18	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB195	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB195	0.59	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB206	0.86	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB206	0.68	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB209	0.79	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB209	0.78	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB52	0.06	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	9.4	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	42	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	5.6	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	31	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	210	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	30	UG/KG	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.12	MG/KG	U
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.12	MG/KG	U
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.16	MG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	SILVER	0.099	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.04	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.015	MG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.1	PCT	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.11	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-18	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.07	PCT	D
2005	WB C-18	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.44	UG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.51	UG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.069	UG/KG	U
2005	WB C-18	WB	SKR	GRAB	0	5	CM	METAL	ZINC	38.6	MG/KG	D
2005	WB C-18	WB	SKR	CORE	5	25	CM	METAL	ZINC	46.9	MG/KG	D
2005	WB C-18	WB	SKR	CORE	25	50	CM	METAL	ZINC	17.2	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.56	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.45	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.34	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.74	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.77	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	320	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	1.3	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.77	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	1.37	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.49	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	0.71	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	0.61	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.61	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.76	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	5.3	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	8000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	19	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.37	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	40	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.35	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.45	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	6	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	5400	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	9.6	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.31	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.14	MG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.11	MG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	3.18	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	3.44	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	1.79	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	42	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	31000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	94	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	75	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	51000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	190	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	53	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	32000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	130	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	61	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	27000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	130	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	52	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	40000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	130	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.091	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.271	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.176	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	32.8	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	28.9	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	37.2	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	55	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	39000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	120	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	COPPER	13.9	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	COPPER	24.1	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	COPPER	7.08	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	8.2	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	5000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	25	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	1.1	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	420	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	1.2	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.44	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.45	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	GRAIN	FINES	1.06	PCT	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	GRAIN	FINES	3.24	PCT	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	2.17	PCT	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	56	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	46000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	110	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	2	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	1400	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	3.1	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.4	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	63	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	35000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	160	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	LEAD	19.1	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	LEAD	22.3	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	LEAD	12.3	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.268	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.0832	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	MERCURY	0.147	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	1.1	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	230	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	2.4	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	20.8	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	NICKEL	27.8	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	NICKEL	23.8	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB101	0.61	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB101	1.11	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB101	1.05	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB105	0.24	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB105	0.21	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB105	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB110	0.85	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB110	1.08	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB110	1.07	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB118	0.49	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB118	0.63	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB118	0.87	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB128	0.4	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB128	1.87	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB129	0.15	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB138	3.98	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB138	2.19	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB138	0.48	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB153	5.01	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB153	3.43	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB153	6.74	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB170	2.52	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB170	1.03	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB170	0.49	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB180	4.92	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB180	2.18	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB180	1.12	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB187	2.27	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB187	1.05	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB187	0.7	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB195	0.78	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB195	0.22	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB206	0.72	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB209	0.69	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB209	0.22	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB209	0.46	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB44	0.98	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	22	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	20000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	34	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	62	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	50000	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	120	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	RAD	RADIUM-226	0.2	PCI/G	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	RAD	RADIUM-226	0.08	PCI/G	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	RAD	RADIUM-226	0.17	PCI/G	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	RAD	RADIUM-228	0.56	PCI/G	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	RAD	RADIUM-228	0.19	PCI/G	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	RAD	RADIUM-228	0.4	PCI/G	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.22	MG/KG	U
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.23	MG/KG	U
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.19	MG/KG	U
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	SILVER	0.044	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.047	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.803	MG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.29	PCT	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.27	PCT	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.23	PCT	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.76	UG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.8	UG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.53	UG/KG	D
2005	WB C-19	WB	SKR	GRAB	0	5	CM	METAL	ZINC	39.4	MG/KG	D
2005	WB C-19	WB	SKR	CORE	5	25	CM	METAL	ZINC	39.2	MG/KG	D
2005	WB C-19	WB	SKR	CORE	25	50	CM	METAL	ZINC	24.8	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.21	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.31	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.23	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	1.2	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	1.1	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.72	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.51	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	0.48	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	0.36	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.44	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	0.39	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	0.34	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.57	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	1.4	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	0.98	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	0.66	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	2.7	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	1.9	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	1.1	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	7.3	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	5.4	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	2.1	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.08	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.06	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.06	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	3.37	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	ARSENIC	2.6	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	ARSENIC	2.06	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	18	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	14	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	8.9	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	41	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	33	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	18	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	31	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	23	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	14	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	42	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	34	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	18	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	27	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	23	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	13	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.076	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.082	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.072	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	40.2	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	39.9	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	31.4	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	25	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	23	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	10	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	COPPER	12.7	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	COPPER	10.7	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	COPPER	7.74	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	3.6	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	3.4	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.7	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.7	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	0.63	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	0.3	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.3	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.13	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.26	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.29	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.27	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	GRAIN	FINES	25.75	PCT	D
2005	WB C-2	WB	SS	CORE	5	25	CM	GRAIN	FINES	16.7	PCT	D
2005	WB C-2	WB	SS	CORE	25	50	CM	GRAIN	FINES	10.59	PCT	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	50	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	34	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	21	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	1.6	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	1.3	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	0.58	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	40	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	32	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	17	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	LEAD	9.75	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	LEAD	9.12	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	LEAD	6.91	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	MERCURY	0.0075	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.0808	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.082	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	3.4	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2.5	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	1.5	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	NICKEL	34.2	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	NICKEL	32.2	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	NICKEL	27	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB105	0.18	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB105	0.17	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB105	0.14	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB110	0.03	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB110	0.06	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB110	0.02	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB118	0.26	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB118	0.25	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB118	0.2	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB128	0.18	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB128	0.18	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB128	0.14	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB138	0.46	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB138	0.45	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB138	0.34	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB153	0.73	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB153	0.78	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB153	0.6	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB170	0.47	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB170	0.45	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB170	0.41	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB180	0.62	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB180	0.65	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB180	0.47	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB187	0.28	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB187	0.31	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB187	0.22	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB195	0.48	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB195	0.44	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB206	0.62	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB206	0.63	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB206	0.58	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB209	0.78	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB209	0.63	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB209	0.61	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	20	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	12	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	6.4	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	56	UG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	39	UG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	26	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.29	MG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.28	MG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.24	MG/KG	U
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.085	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	SILVER	0.07	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	SILVER	0.061	MG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.36	PCT	D
2005	WB C-2	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.28	PCT	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-2	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.15	PCT	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.083	UG/KG	U
2005	WB C-2	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.076	UG/KG	U
2005	WB C-2	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.32	UG/KG	D
2005	WB C-2	WB	SS	GRAB	0	5	CM	METAL	ZINC	36.4	MG/KG	D
2005	WB C-2	WB	SS	CORE	5	25	CM	METAL	ZINC	32.1	MG/KG	D
2005	WB C-2	WB	SS	CORE	25	50	CM	METAL	ZINC	25.6	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDD	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDE	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 24	2,4'-DDT	1.03	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 24	2,4'-DDT	0.23	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	2.3	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.62	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	3.2	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.2	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDD	0.78	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDD	1.52	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.73	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDE	0.47	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDE	0.7	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	DDT 44	4,4'-DDT	2.62	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	DDT 44	4,4'-DDT	0.53	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	DDT 44	4,4'-DDT	0.67	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	34	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	6.9	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	27	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.51	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.27	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	71	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ALPHA-BHC	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	ANTHRACENE	21	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	ANTHRACENE	5.5	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	ANTHRACENE	200	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	ANTIMONY	0.14	MG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	ANTIMONY	0.13	MG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	ANTIMONY	0.08	MG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	ARSENIC	2.71	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	ARSENIC	3.79	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	ARSENIC	3.35	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	220	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	72	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	1100	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	530	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	140	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	1400	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	320	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	100	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1100	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	400	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	120	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	770	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	340	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	99	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	1200	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	CADMIUM	0.127	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	CADMIUM	0.151	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	CADMIUM	0.122	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	CHROMIUM	29.5	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	CHROMIUM	33.9	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	CHROMIUM	29.9	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	CHRYSENE	290	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	CHRYSENE	100	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	CHRYSENE	1600	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	COPPER	12	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	COPPER	14.4	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	COPPER	12.7	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	62	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	19	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	300	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH	DIBENZOFURAN	3.9	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH	DIBENZOFURAN	0.75	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH	DIBENZOFURAN	9.5	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	DIELDRIN	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN I	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN II	0.1	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.23	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	GRAIN	FINES	29.62	PCT	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	70	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	2400	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	FLUORENE	7.3	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	FLUORENE	1.7	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	FLUORENE	33	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	GAMMA-BHC	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	460	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	130	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	960	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	LEAD	18.5	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	LEAD	22.1	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	LEAD	20.2	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	MERCURY	0.0227	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	MERCURY	0.0526	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	MERCURY	0.0441	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	6.8	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	NAPHTHALENE	1.1	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	NAPHTHALENE	7.7	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	NICKEL	24.8	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	NICKEL	24.9	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	NICKEL	25.1	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB101	0.3	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB101	0.19	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB105	0.25	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB105	0.19	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB105	0.21	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB110	0.69	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB110	0.61	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB110	0.82	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB118	0.54	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB118	0.41	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB118	1.15	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB126	0.05	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB128	0.45	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB128	0.31	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB138	2.05	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB138	1.79	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB138	1.17	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB153	2.68	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB153	2.32	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB153	2.77	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB170	0.87	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB170	0.78	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB170	0.72	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB180	1.57	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB180	1.42	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB180	1.26	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB187	0.87	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB187	0.81	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB187	0.7	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB195	0.48	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB195	0.46	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB195	0.46	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB206	0.54	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB206	0.6	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB206	0.55	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB209	0.63	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB209	0.55	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB209	1.71	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB66	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	65	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH LOW	PHENANTHRENE	19	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH LOW	PHENANTHRENE	600	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	PAH HIGH	PYRENE	240	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	PAH HIGH	PYRENE	82	UG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	PAH HIGH	PYRENE	2300	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	SELENIUM	0.16	MG/KG	U
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	SELENIUM	0.12	MG/KG	U
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	SELENIUM	0.13	MG/KG	U
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	SILVER	0.055	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	SILVER	0.034	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	SILVER	0.034	MG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.15	PCT	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.19	PCT	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.18	PCT	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.5	UG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.54	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-20	WB	SKR	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.53	UG/KG	D
2005	WB C-20	WB	SKR	GRAB	0	5	CM	METAL	ZINC	37.8	MG/KG	D
2005	WB C-20	WB	SKR	CORE	5	25	CM	METAL	ZINC	43.5	MG/KG	D
2005	WB C-20	WB	SKR	CORE	25	50	CM	METAL	ZINC	39	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 24	2,4'-DDD	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 24	2,4'-DDD	1.72	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 24	2,4'-DDE	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 24	2,4'-DDT	0.21	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.45	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.75	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.85	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.55	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 44	4,4'-DDD	0.53	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 44	4,4'-DDD	1.14	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.39	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 44	4,4'-DDE	0.4	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 44	4,4'-DDE	0.58	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.44	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	DDT 44	4,4'-DDT	0.47	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	DDT 44	4,4'-DDT	0.72	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	2.3	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	11	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	7.4	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.61	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.28	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.71	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ALPHA-BHC	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	ANTHRACENE	2.7	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	ANTHRACENE	7.5	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	ANTHRACENE	7.8	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	ANTIMONY	0.09	MG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	ANTIMONY	0.08	MG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	ARSENIC	2.65	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	ARSENIC	2.82	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	ARSENIC	2.67	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	39	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	69	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	68	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	71	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	120	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	54	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	86	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	89	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	60	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	99	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	95	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	45	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	96	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	81	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	CADMIUM	0.085	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	CADMIUM	0.085	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	CADMIUM	0.071	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	CHROMIUM	35.3	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	CHROMIUM	32.9	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	CHROMIUM	30.8	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	CHRYSENE	56	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	CHRYSENE	92	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	CHRYSENE	94	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	COPPER	9.83	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	COPPER	9.19	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	COPPER	14.8	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	7.9	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	15	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	16	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.45	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH	DIBENZOFURAN	0.69	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH	DIBENZOFURAN	0.81	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	DIELDRIN	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	DIELDRIN	0.49	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ENDOSULFAN I	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ENDOSULFAN II	0.1	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.23	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.26	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	GRAIN	FINES	10.93	PCT	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	GRAIN	FINES	1.45	PCT	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	GRAIN	FINES	2.9	PCT	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	41	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	84	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	85	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	FLUORENE	0.83	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	FLUORENE	1.7	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	FLUORENE	2	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	GAMMA-BHC	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	60	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	110	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	99	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	LEAD	15.4	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	LEAD	14.7	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	LEAD	11.2	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	MERCURY	0.0488	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	MERCURY	0.0553	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	MERCURY	0.0184	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	1.1	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	NAPHTHALENE	1.1	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	NAPHTHALENE	1.2	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	NICKEL	25.5	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	NICKEL	25.1	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	NICKEL	25	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB101	1.58	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB105	0.19	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB105	0.15	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB105	0.84	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB110	0.36	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB110	0.35	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB110	2.41	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB118	0.31	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB118	0.25	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB118	1.95	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB126	0.05	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB128	0.25	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB128	0.21	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB128	0.73	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB129	0.25	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB138	1.35	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB138	1.3	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB138	4.18	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB153	1.74	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB153	1.69	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB153	5.18	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB170	0.7	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB170	0.66	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB170	1.37	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB180	1.16	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB180	1.1	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB180	3.24	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB187	0.6	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB187	0.59	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB187	1.97	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB195	0.45	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB195	0.41	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB195	0.61	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB206	0.53	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB206	0.5	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB206	0.63	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB209	0.58	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB209	0.48	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB209	0.53	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB52	0.03	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB66	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	9.7	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH LOW	PHENANTHRENE	23	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH LOW	PHENANTHRENE	26	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	PAH HIGH	PYRENE	53	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	PAH HIGH	PYRENE	94	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	PAH HIGH	PYRENE	99	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	SELENIUM	0.14	MG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	SELENIUM	0.15	MG/KG	U
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	SELENIUM	0.18	MG/KG	U
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	SILVER	0.03	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	SILVER	0.035	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	SILVER	0.038	MG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.32	PCT	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.36	PCT	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.31	PCT	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.57	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.82	UG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.5	UG/KG	D
2005	WB C-21	WB	WB C OutGG	GRAB	0	5	CM	METAL	ZINC	35.3	MG/KG	D
2005	WB C-21	WB	WB C OutGG	CORE	5	25	CM	METAL	ZINC	34.9	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-21	WB	WB C OutGG	CORE	25	50	CM	METAL	ZINC	33.1	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDD	1.4	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDT	0.33	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.33	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	2	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	3	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.85	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDD	1.83	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDD	3.53	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.49	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDE	0.81	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDE	1.28	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.5	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDT	0.87	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDT	13.33	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	3	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	7.9	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	8.5	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.23	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	4.6	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	9	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	ANTHRACENE	2.8	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	ANTHRACENE	15	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	ANTHRACENE	26	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	ANTIMONY	0.29	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	ANTIMONY	0.28	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	ARSENIC	2.59	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	ARSENIC	3.65	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	ARSENIC	4.29	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	20	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	69	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	110	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	37	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	220	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	27	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	98	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	180	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	32	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	100	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	170	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	28	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	68	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	120	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	CADMIUM	0.053	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	CADMIUM	0.176	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	CADMIUM	0.35	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	CHROMIUM	31.6	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	CHROMIUM	36	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	CHROMIUM	48.2	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	CHRYSENE	28	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	CHRYSENE	100	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	CHRYSENE	160	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	COPPER	7.2	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	COPPER	11	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	COPPER	17	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	24	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	44	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.43	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH	DIBENZOFURAN	1.8	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH	DIBENZOFURAN	1.8	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	DIELDRIN	0.55	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	DIELDRIN	0.77	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.27	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	GRAIN	FINES	11.76	PCT	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	GRAIN	FINES	40.93	PCT	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	GRAIN	FINES	3.78	PCT	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	32	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	110	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	190	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	FLUORENE	0.97	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	FLUORENE	4.9	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	FLUORENE	6	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.17	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	31	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	97	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	180	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	LEAD	10.3	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	LEAD	13.6	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	LEAD	34.6	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	MERCURY	0.0312	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	MERCURY	0.0851	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	MERCURY	0.169	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	0.57	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	NAPHTHALENE	3.6	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	NAPHTHALENE	7.4	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	NICKEL	23.7	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	NICKEL	30.5	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	NICKEL	42	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB101	1.31	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB101	1.92	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB105	0.19	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB105	0.53	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB105	0.62	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB110	0.42	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB110	1.98	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB110	2.53	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB118	0.48	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB118	1.19	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB118	1.58	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB128	0.24	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB128	0.39	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB128	0.5	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB129	0.17	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB129	0.16	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB138	1.68	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB138	2.71	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB138	3.29	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB153	2.23	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB153	3.36	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB153	4.19	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB170	0.93	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB170	0.76	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB170	0.9	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB180	1.61	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB180	1.38	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB180	1.7	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB187	0.82	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB187	0.92	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB187	1.07	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB195	0.47	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB195	0.47	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB195	0.52	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB206	0.52	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB206	0.56	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB206	0.6	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB209	0.55	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB209	0.53	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB209	0.86	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB52	0.32	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB52	0.61	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB66	0.08	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	11	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH LOW	PHENANTHRENE	50	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH LOW	PHENANTHRENE	79	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	PAH HIGH	PYRENE	33	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	PAH HIGH	PYRENE	130	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	PAH HIGH	PYRENE	220	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	SELENIUM	0.18	MG/KG	U
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	SELENIUM	0.18	MG/KG	U
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	SELENIUM	0.21	MG/KG	U
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	SILVER	0.026	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	SILVER	0.058	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	SILVER	0.203	MG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	2.29	PCT	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	2.13	PCT	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	1.61	PCT	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.66	UG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.73	UG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.65	UG/KG	D
2005	WB C-22	WB	WB C	GRAB	0	5	CM	METAL	ZINC	27.8	MG/KG	D
2005	WB C-22	WB	WB C	CORE	5	25	CM	METAL	ZINC	38.3	MG/KG	D
2005	WB C-22	WB	WB C	CORE	25	50	CM	METAL	ZINC	48.8	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.92	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.65	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.46	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	2.6	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	4.1	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	4.1	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.45	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	1.13	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	0.98	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.22	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	1.09	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	0.53	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.81	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.6	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	0.05	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	2.7	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	6.6	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	6.9	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	5.4	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	16	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	13	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	15	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	30	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	32	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.12	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.18	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.24	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	5.85	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	ARSENIC	5.85	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	ARSENIC	7.99	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	44	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	86	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	89	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	100	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	240	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	71	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	130	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	150	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	97	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	190	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	250	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	69	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	130	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	150	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.154	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.334	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.448	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	74.1	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	85.2	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	100	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	65	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	110	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	110	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	COPPER	27.7	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	COPPER	30.7	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	COPPER	29	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	8.5	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	19	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	21	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	1.3	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	1.9	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	2	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.46	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.43	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.4	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.42	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.41	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.38	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.39	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	GRAIN	FINES	81.76	PCT	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	GRAIN	FINES	87.22	PCT	D
2005	WB C-3	WB	SS	CORE	25	50	CM	GRAIN	FINES	85.55	PCT	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	100	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	220	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	3.2	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	6.3	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	7.1	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	96	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	190	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	240	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	LEAD	21.4	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	LEAD	23.1	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	LEAD	26.9	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	MERCURY	0.313	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.431	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.533	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	7.9	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	13	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	17	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	NICKEL	52.9	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	NICKEL	55.6	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	NICKEL	63.1	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB101	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB101	0.21	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB101	0.19	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB105	0.39	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB105	0.38	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB105	0.32	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB110	0.48	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB110	0.64	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB110	0.51	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB118	0.79	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB118	0.86	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB118	0.6	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB128	0.38	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB128	0.46	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB128	0.33	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB138	1.42	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB138	2.45	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB138	1.16	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB153	2.16	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB153	3.32	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB153	1.75	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB170	0.88	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB170	1.64	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB170	0.73	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB180	1.91	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB180	3.63	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB180	1.04	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB187	0.72	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB187	1.92	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB187	0.62	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB195	0.05	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB195	0.98	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB195	0.78	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB206	0.92	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB206	1.05	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB206	1.1	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB209	1.05	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB209	1.02	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB209	1.15	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB52	0.07	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB52	0.06	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB52	0.06	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	CON	PCB8	0.11	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	CON	PCB8	0.06	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	39	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	84	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	94	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	120	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	250	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	280	UG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.35	MG/KG	U
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.41	MG/KG	U
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.39	MG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.207	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	SILVER	0.273	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	SILVER	0.314	MG/KG	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.17	PCT	D
2005	WB C-3	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	1.06	PCT	D
2005	WB C-3	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.94	PCT	D
2005	WB C-3	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	1.1	UG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.1	UG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.12	UG/KG	U
2005	WB C-3	WB	SS	GRAB	0	5	CM	METAL	ZINC	67.6	MG/KG	D
2005	WB C-3	WB	SS	CORE	5	25	CM	METAL	ZINC	73.8	MG/KG	D
2005	WB C-3	WB	SS	CORE	25	50	CM	METAL	ZINC	72.6	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.57	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.42	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.38	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	1.1	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	1.5	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	3.5	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.72	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	1.83	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	4.63	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.54	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	1.5	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	0.73	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.9	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.7	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	0.59	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	2.8	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	2.3	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	4.4	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	3.8	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	3.9	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	11	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.32	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.27	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	9.5	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	8.5	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	17	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.18	MG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.23	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	5.43	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	ARSENIC	6.62	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	ARSENIC	6.95	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	24	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	23	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	67	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	41	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	43	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	170	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	29	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	29	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	120	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	33	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	39	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	160	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	27	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	27	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	94	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.211	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.427	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.597	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	82.6	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	88.8	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	75.6	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	36	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	32	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	93	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	COPPER	30.3	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	COPPER	36.1	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	COPPER	29.5	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.4	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.5	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	16	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.64	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	0.73	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	1.9	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.17	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.4	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.36	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.34	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.82	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	GRAIN	FINES	86.66	PCT	D
2005	WB C-4	WB	SS	CORE	25	50	CM	GRAIN	FINES	62.88	PCT	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	GRAIN	FINES	85.66	PCT	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	61	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	61	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	170	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	2.4	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	2	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	4.3	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.37	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.28	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	32	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	36	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	150	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	LEAD	23.7	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	LEAD	31.9	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	LEAD	30.5	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	MERCURY	0.291	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.435	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.475	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	4.2	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	4.8	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	15	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	NICKEL	55.8	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	NICKEL	62.9	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	NICKEL	55.6	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB101	0.67	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB101	1.97	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB101	1.74	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB105	0.27	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB105	0.49	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB105	0.35	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB110	0.82	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB110	1.91	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB110	1.61	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB118	0.66	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB118	1.42	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB118	1.05	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB128	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB128	0.1	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB128	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB129	0.11	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB129	0.13	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB129	0.1	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB138	1.54	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB138	2.95	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB138	2.25	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB153	2.08	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB153	4.11	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB153	3.2	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB170	0.7	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB170	1	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB170	0.68	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB180	1.6	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB180	2.07	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB180	1.39	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB187	0.46	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB187	0.99	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB187	0.69	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB195	0.24	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB195	0.32	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB195	0.26	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB206	0.1	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB206	0.24	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB206	0.31	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB209	0.14	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB209	0.54	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB209	0.58	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB28	0.01	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB28	0.12	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB44	0.07	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB44	0.01	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB52	0.07	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB52	0.21	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB52	0.18	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB66	0.35	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB66	0.51	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB66	0.32	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	28	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	27	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	57	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	76	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	78	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	210	UG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.3	MG/KG	U
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.42	MG/KG	U
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.28	MG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.241	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	SILVER	0.441	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	SILVER	0.329	MG/KG	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.29	PCT	D
2005	WB C-4	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	1.13	PCT	D
2005	WB C-4	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.75	PCT	D
2005	WB C-4	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	2.2	UG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.6	UG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.098	UG/KG	U
2005	WB C-4	WB	SS	GRAB	0	5	CM	METAL	ZINC	72.3	MG/KG	D
2005	WB C-4	WB	SS	CORE	5	25	CM	METAL	ZINC	85.5	MG/KG	D
2005	WB C-4	WB	SS	CORE	25	50	CM	METAL	ZINC	74.4	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.06	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.08	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.07	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	1.3	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.96	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	1	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	1.51	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	1.15	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	1.8	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	1.32	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	1.52	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	1.35	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	1.91	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.63	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	1.72	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	3.3	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	1.4	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	2.1	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	5.2	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	3.3	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	4.3	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.06	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.05	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	16	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	8.3	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	8.3	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.12	MG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.11	MG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.16	MG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	5.5	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	ARSENIC	5.94	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	ARSENIC	6.11	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	29	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	18	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	23	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	44	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	27	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	39	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	28	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	18	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	25	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	32	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	21	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	33	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	26	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	16	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	25	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.173	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.218	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.517	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	84.4	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	87.6	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	97.9	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	38	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	24	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	30	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	COPPER	28.4	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	COPPER	35.4	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	COPPER	32.2	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	4.5	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.7	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	3.9	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.57	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	0.38	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	0.49	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.17	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.19	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.17	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.4	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.44	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.4	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.05	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.09	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.08	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	GRAIN	FINES	94.61	PCT	D
2005	WB C-5	WB	SS	CORE	25	50	CM	GRAIN	FINES	78.85	PCT	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	GRAIN	FINES	86.84	PCT	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	68	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	40	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	59	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	2.9	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	1.4	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	2	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	31	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	20	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	30	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	LEAD	20.8	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	LEAD	24.2	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	LEAD	29.4	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	MERCURY	0.276	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.3	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.285	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	4.3	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2.9	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	4	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	NICKEL	54.4	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	NICKEL	65.6	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	NICKEL	60.5	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB101	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB101	0.06	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB101	2.18	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB105	0.4	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB105	0.35	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB105	0.75	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB110	0.57	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB110	0.32	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB110	2.36	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB118	0.81	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB118	0.58	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB118	1.91	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB126	0.1	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB126	0.09	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB128	0.36	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB128	0.32	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB128	0.72	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB129	0.21	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB138	1.5	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB138	1.16	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB138	3.92	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB153	2.02	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB153	1.65	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB153	4.9	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB170	0.87	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB170	0.85	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB170	1.4	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB18	0.05	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB180	1.49	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB180	1.22	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB180	2.48	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB187	0.68	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB187	0.61	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB187	1.52	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB195	0.71	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB195	0.77	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB195	0.87	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB206	0.86	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB206	0.93	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB206	0.99	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB209	0.79	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB209	0.8	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB209	1.22	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB28	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB44	0.04	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB52	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB52	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB52	0.49	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB66	0.06	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB66	0.07	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB66	0.05	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	CON	PCB8	0.06	UG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	43	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	21	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	28	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	89	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	54	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	74	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.32	MG/KG	U
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.36	MG/KG	U
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.31	MG/KG	U
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.209	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	SILVER	0.252	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	SILVER	0.399	MG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	1.12	PCT	D
2005	WB C-5	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	1.24	PCT	D
2005	WB C-5	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.92	PCT	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	1.7	UG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	1.9	UG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	1.3	UG/KG	D
2005	WB C-5	WB	SS	GRAB	0	5	CM	METAL	ZINC	68.1	MG/KG	D
2005	WB C-5	WB	SS	CORE	5	25	CM	METAL	ZINC	79	MG/KG	D
2005	WB C-5	WB	SS	CORE	25	50	CM	METAL	ZINC	76.9	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.76	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.67	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.77	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.99	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDD	0.68	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDD	0.49	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.8	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDE	0.73	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDE	0.51	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.7	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	DDT 44	4,4'-DDT	0.4	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	0.88	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	0.9	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	1.2	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	1.9	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	1.5	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	2.3	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	ANTHRACENE	5	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	ANTHRACENE	3.4	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	ANTHRACENE	5.2	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	ANTIMONY	0.09	MG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	ANTIMONY	0.1	MG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	ANTIMONY	0.06	MG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	ARSENIC	4.72	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	ARSENIC	3.21	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	ARSENIC	2.46	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	11	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	9.3	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	13	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	18	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	18	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	24	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	12	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	12	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	17	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	16	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	17	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	22	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	11	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	12	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	15	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	CADMIUM	0.163	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	CADMIUM	0.132	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	CADMIUM	0.107	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	CHROMIUM	72.2	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	CHROMIUM	58.6	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	CHROMIUM	38.8	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	CHRYSENE	16	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	CHRYSENE	15	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	CHRYSENE	18	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	COPPER	23.2	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	COPPER	19.8	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	COPPER	13.6	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.6	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.5	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.3	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.36	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH	DIBENZOFURAN	0.28	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH	DIBENZOFURAN	0.37	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	DIELDRIN	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.15	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.35	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.28	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.27	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.07	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	GRAIN	FINES	46.53	PCT	D
2005	WB C-6	WB	SS	CORE	5	25	CM	GRAIN	FINES	40.78	PCT	D
2005	WB C-6	WB	SS	CORE	25	50	CM	GRAIN	FINES	20.73	PCT	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	28	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	22	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	32	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	FLUORENE	1.1	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	FLUORENE	0.7	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	FLUORENE	1.3	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	GAMMA-BHC	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	14	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	15	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	20	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	LEAD	14.7	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	LEAD	11.9	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	LEAD	8.08	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	MERCURY	0.145	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	MERCURY	0.0785	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	2.3	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	NAPHTHALENE	2.9	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	NICKEL	49.5	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	NICKEL	42.1	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	NICKEL	33.2	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB101	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB105	0.25	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB105	0.23	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB105	0.18	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB110	0.15	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB110	0.23	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB110	0.09	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB118	0.42	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB118	0.41	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB118	0.26	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB126	0.08	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB128	0.23	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB128	0.2	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB128	0.17	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB129	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB138	0.8	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB138	0.78	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB138	0.54	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB153	1.18	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB153	1.09	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB153	0.82	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB170	0.65	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB170	0.56	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB170	0.49	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB180	1.01	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB180	0.84	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB180	0.61	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB187	0.43	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB187	0.37	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB187	0.31	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB195	0.59	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB195	0.47	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB195	0.45	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB206	0.75	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB206	0.6	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB206	0.56	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB209	0.66	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB209	0.56	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB209	0.48	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB52	0.06	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB77	0.03	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	CON	PCB8	0.05	UG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-6	WB	SS	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	13	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH LOW	PHENANTHRENE	8.8	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH LOW	PHENANTHRENE	14	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	PAH HIGH	PYRENE	36	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	PAH HIGH	PYRENE	30	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	PAH HIGH	PYRENE	44	UG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	SELENIUM	0.28	MG/KG	U
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	SELENIUM	0.26	MG/KG	U
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	SELENIUM	0.23	MG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	SILVER	0.153	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	SILVER	0.128	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	SILVER	0.096	MG/KG	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.65	PCT	D
2005	WB C-6	WB	SS	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.55	PCT	D
2005	WB C-6	WB	SS	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.37	PCT	D
2005	WB C-6	WB	SS	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.65	UG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.35	UG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.075	UG/KG	U
2005	WB C-6	WB	SS	GRAB	0	5	CM	METAL	ZINC	55.5	MG/KG	D
2005	WB C-6	WB	SS	CORE	5	25	CM	METAL	ZINC	46.8	MG/KG	D
2005	WB C-6	WB	SS	CORE	25	50	CM	METAL	ZINC	33.2	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.14	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.14	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.14	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.33	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDD	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDD	0.04	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.24	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDE	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDE	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.13	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.092	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.091	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	ANTHRACENE	0.24	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	ANTHRACENE	0.13	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	ANTHRACENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	ANTIMONY	0.03	MG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	ANTIMONY	0.04	MG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	ARSENIC	2.39	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	ARSENIC	2.48	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	ARSENIC	2.32	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	0.78	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	0.38	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	0.26	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	1.4	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	0.82	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	0.11	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	1.1	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	0.64	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	0.14	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	1.5	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	0.91	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	0.14	UG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	0.87	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	0.49	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	CADMIUM	0.061	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	CADMIUM	0.054	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	CADMIUM	0.076	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	CHROMIUM	31	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	CHROMIUM	44	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	CHROMIUM	42.3	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	CHRYSENE	1	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	CHRYSENE	0.5	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	CHRYSENE	0.08	UG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	COPPER	4.48	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	COPPER	4.96	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	COPPER	7.82	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.12	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.15	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH	DIBENZOFURAN	0.15	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH	DIBENZOFURAN	0.15	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	GRAIN	FINES	9.76	PCT	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	GRAIN	FINES	3.8	PCT	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	GRAIN	FINES	4.71	PCT	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	1.9	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	1.1	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	0.19	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	FLUORENE	0.11	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	FLUORENE	0.11	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	FLUORENE	0.11	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	1.3	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	0.77	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	0.11	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	LEAD	4.22	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	LEAD	3.68	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	LEAD	2.72	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	MERCURY	0.0168	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	MERCURY	0.0222	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	MERCURY	0.0118	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	0.37	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	NAPHTHALENE	0.3	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	NAPHTHALENE	0.21	UG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	NICKEL	18.4	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	NICKEL	19.8	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	NICKEL	31	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB105	0.11	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB105	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB105	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB110	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB118	0.18	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB118	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB118	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB138	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB138	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB138	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB153	0.35	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB153	0.28	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB153	0.05	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB170	0.4	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB170	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB170	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB180	0.37	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB180	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB180	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB187	0.14	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	0.73	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH LOW	PHENANTHRENE	0.46	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH LOW	PHENANTHRENE	0.18	UG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	PAH HIGH	PYRENE	2.5	UG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	PAH HIGH	PYRENE	1.4	UG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	PAH HIGH	PYRENE	0.22	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	SELENIUM	0.16	MG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	SELENIUM	0.16	MG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	SELENIUM	0.17	MG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	SILVER	0.022	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	SILVER	0.023	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	SILVER	0.023	MG/KG	D
2005	WB C-7	WB	WB S	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.12	PCT	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.19	PCT	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.13	PCT	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.07	UG/KG	U
2005	WB C-7	WB	WB S	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.07	UG/KG	U
2005	WB C-7	WB	WB S	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.07	UG/KG	U
2005	WB C-7	WB	WB S	GRAB	0	5	CM	METAL	ZINC	16.3	MG/KG	D
2005	WB C-7	WB	WB S	CORE	5	25	CM	METAL	ZINC	15.9	MG/KG	D
2005	WB C-7	WB	WB S	CORE	25	50	CM	METAL	ZINC	19	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDD	2.58	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDD	0.51	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDD	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.57	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 24	2,4'-DDT	0.06	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.27	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.52	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	0.34	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDD	6.36	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDD	1.54	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDD	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDE	2.61	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDE	0.96	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDE	0.02	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	GRAB	0	5	CM	DDT 44	4,4'-DDT	3.82	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	DDT 44	4,4'-DDT	0.64	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	DDT 44	4,4'-DDT	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	0.23	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	0.4	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	0.15	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.12	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	0.26	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	0.12	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ALDRIN	0.31	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ALPHA-BHC	0.4	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ALPHA-BHC	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	1.42	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.48	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	ANTHRACENE	0.38	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	ANTHRACENE	0.8	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	ANTHRACENE	0.14	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	ANTIMONY	0.03	MG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	ANTIMONY	0.03	MG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	ANTIMONY	0.05	MG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	ARSENIC	3.02	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	ARSENIC	3.28	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	ARSENIC	5.72	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	2.7	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	4.4	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	0.34	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	4.2	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	5.9	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	0.52	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	8.3	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	8.3	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	0.73	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	6.5	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	7.1	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	0.94	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	4	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	4.5	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	0.36	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	CADMIUM	0.066	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	CADMIUM	0.098	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	CADMIUM	0.201	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	CHROMIUM	27.2	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	CHROMIUM	39.8	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	CHROMIUM	72	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	CHRYSENE	6.3	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	CHRYSENE	14	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	CHRYSENE	1.1	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	COPPER	6	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	COPPER	12.4	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	COPPER	23.7	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.7	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.7	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.14	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.16	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH	DIBENZOFURAN	0.34	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH	DIBENZOFURAN	0.19	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	DIELDRIN	1.13	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	DIELDRIN	0.5	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN II	0.14	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.25	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.27	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.33	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ENDRIN	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	1.49	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.61	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.06	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	GRAIN	FINES	2.57	PCT	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	GRAIN	FINES	18.13	PCT	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	GRAIN	FINES	76.81	PCT	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	4.8	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	31	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	0.85	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	FLUORENE	0.23	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	FLUORENE	0.65	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	FLUORENE	0.3	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	GAMMA-BHC	0.49	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	1.66	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.63	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	HEPTACHLOR	0.22	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.3	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	3.2	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	3.7	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	0.37	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	LEAD	3.4	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	LEAD	4.22	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	LEAD	6.82	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	MERCURY	0.366	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	MERCURY	0.499	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	MERCURY	0.0412	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	1	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	NAPHTHALENE	0.62	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	NAPHTHALENE	0.41	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	NICKEL	20	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	NICKEL	29.5	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	NICKEL	55.7	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB101	1.17	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB101	0.27	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB105	0.53	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB105	0.16	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB105	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB110	1.59	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB110	0.57	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB110	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB118	1.04	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB118	0.23	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB118	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB126	0.07	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB128	0.2	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB129	0.24	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB138	1.49	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB138	0.61	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB138	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB153	1.97	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB153	0.86	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB153	0.06	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB170	0.25	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB170	0.17	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB170	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB18	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB180	0.67	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB180	0.23	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB180	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB187	0.51	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB187	0.03	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB187	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB195	0.33	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB195	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB195	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB206	0.26	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB206	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB28	0.25	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB28	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB44	0.59	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB44	0.03	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB52	0.43	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB66	0.49	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB66	0.05	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	1	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH LOW	PHENANTHRENE	2.9	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH LOW	PHENANTHRENE	0.89	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	PAH HIGH	PYRENE	12	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	PAH HIGH	PYRENE	29	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-8	WB	WB S	CORE	25	50	CM	PAH HIGH	PYRENE	1.2	UG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	RAD	RADIUM-226	0.23	PCI/G	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	RAD	RADIUM-226	0.14	PCI/G	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	RAD	RADIUM-226	0.44	PCI/G	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	RAD	RADIUM-228	0.42	PCI/G	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	RAD	RADIUM-228	0.22	PCI/G	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	RAD	RADIUM-228	0.37	PCI/G	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	SELENIUM	0.15	MG/KG	U
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	SELENIUM	0.22	MG/KG	U
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	SELENIUM	0.3	MG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	SILVER	0.021	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	SILVER	0.034	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	SILVER	0.071	MG/KG	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.49	PCT	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.49	PCT	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.78	PCT	D
2005	WB C-8	WB	WB S	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.59	UG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.88	UG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.087	UG/KG	U
2005	WB C-8	WB	WB S	GRAB	0	5	CM	METAL	ZINC	16.9	MG/KG	D
2005	WB C-8	WB	WB S	CORE	5	25	CM	METAL	ZINC	25	MG/KG	D
2005	WB C-8	WB	WB S	CORE	25	50	CM	METAL	ZINC	46.1	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDD	0.04	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 24	2,4'-DDT	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 24	2,4'-DDT	0.05	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	2-METHYLNAPHTHALENE	0.54	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	2-METHYLNAPHTHALENE	0.66	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	2-METHYLNAPHTHALENE	4.3	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDD	0.64	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDD	0.45	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDD	3.64	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDE	0.6	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDE	0.43	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDE	1.96	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	DDT 44	4,4'-DDT	3.68	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	DDT 44	4,4'-DDT	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	DDT 44	4,4'-DDT	0.78	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHENE	0.45	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHENE	1	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHENE	7.1	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	ACENAPHTHYLENE	0.79	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	ACENAPHTHYLENE	1.9	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	ACENAPHTHYLENE	16	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ALDRIN	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ALDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ALPHA-BHC	0.04	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ALPHA-CHLORDANE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	ANTHRACENE	2.1	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	ANTHRACENE	4.2	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	ANTHRACENE	33	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	ANTIMONY	0.03	MG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	ANTIMONY	0.04	MG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	ANTIMONY	0.18	MG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	ARSENIC	2.68	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	ARSENIC	1.9	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	ARSENIC	5.43	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)ANTHRACENE	5.4	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)ANTHRACENE	9.8	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)ANTHRACENE	81	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(A)PYRENE	10	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(A)PYRENE	19	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(A)PYRENE	160	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(B)FLUORANTHENE	7.2	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(B)FLUORANTHENE	12	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(B)FLUORANTHENE	110	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	9	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	15	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	140	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	BENZO(K)FLUORANTHENE	6.6	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	BENZO(K)FLUORANTHENE	13	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	BENZO(K)FLUORANTHENE	100	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	CADMIUM	0.074	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	CADMIUM	0.061	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	CADMIUM	0.429	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	CHROMIUM	35.5	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	CHROMIUM	34.4	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	CHROMIUM	58.3	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	CHRYSENE	7.6	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	CHRYSENE	13	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	CHRYSENE	110	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	COPPER	9.82	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	COPPER	6.46	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	COPPER	20.1	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	0.81	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	1.5	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	12	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH	DIBENZOFURAN	0.26	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH	DIBENZOFURAN	0.55	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH	DIBENZOFURAN	3.3	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	DIELDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN I	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN II	0.11	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN II	0.12	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ENDOSULFAN SULFATE	0.28	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ENDOSULFAN SULFATE	0.24	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ENDOSULFAN SULFATE	0.28	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ENDRIN	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	ENDRIN ALDEHYDE	0.05	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	GRAIN	FINES	18.15	PCT	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	GRAIN	FINES	7.29	PCT	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	GRAIN	FINES	57.93	PCT	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	FLUORANTHENE	13	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	FLUORANTHENE	23	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	FLUORANTHENE	190	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	FLUORENE	0.69	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	FLUORENE	1.2	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	FLUORENE	9.1	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	GAMMA-BHC	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	GAMMA-CHLORDANE	0.17	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	GAMMA-CHLORDANE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	PEST	HEPTACHLOR EPOXIDE	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	7.6	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	13	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	120	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	LEAD	6.82	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	LEAD	4.64	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	LEAD	18.1	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	MERCURY	0.1	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	MERCURY	0.0398	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	MERCURY	0.321	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	NAPHTHALENE	1.5	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	NAPHTHALENE	2.1	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	NAPHTHALENE	15	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	NICKEL	27.5	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	NICKEL	23.5	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	NICKEL	50.4	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB101	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB101	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB101	3	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB105	0.05	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB105	0.01	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB105	0.66	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB110	0.11	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB110	0.04	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB110	2.78	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB118	0.03	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB118	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB118	2	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB126	0.05	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB126	0.06	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB128	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB128	0.31	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB129	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB129	0.26	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB138	0.32	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB138	0.07	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB138	3.87	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB153	0.42	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB153	0.16	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB153	6.06	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB170	0.17	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB170	0.09	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB170	1.95	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB18	0.03	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB18	0.03	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB180	0.29	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB180	0.07	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB180	3.64	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB187	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB187	1.84	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB195	0.05	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB195	0.04	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB195	0.58	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB206	0.01	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB206	0.02	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB206	0.31	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB209	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB209	1.28	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB28	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB28	0.14	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB44	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB44	0.38	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB52	0.05	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB52	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB52	1.26	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB66	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB66	0.57	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB77	0.02	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	CON	PCB8	0.03	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	CON	PCB8	0.04	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH LOW	PHENANTHRENE	6.3	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH LOW	PHENANTHRENE	9.8	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH LOW	PHENANTHRENE	83	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	PAH HIGH	PYRENE	18	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	PAH HIGH	PYRENE	37	UG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	PAH HIGH	PYRENE	350	UG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-226	0.19	PCI/G	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	RAD	RADIUM-226	0.23	PCI/G	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	RAD	RADIUM-226	0.14	PCI/G	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	RAD	RADIUM-228	0.41	PCI/G	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	RAD	RADIUM-228	0.39	PCI/G	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	RAD	RADIUM-228	1.36	PCI/G	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	SELENIUM	0.19	MG/KG	U
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	SELENIUM	0.14	MG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	SELENIUM	0.21	MG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	SILVER	0.054	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	SILVER	0.039	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	SILVER	0.226	MG/KG	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	TOC	TOTAL ORGANIC CARBON	0.71	PCT	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	TOC	TOTAL ORGANIC CARBON	0.19	PCT	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	TOC	TOTAL ORGANIC CARBON	0.57	PCT	D
2005	WB C-9	WB	WB C	GRAB	0	5	CM	TBT	TRIBUTYL TIN	0.25	UG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	TBT	TRIBUTYL TIN	0.069	UG/KG	U
2005	WB C-9	WB	WB C	CORE	25	50	CM	TBT	TRIBUTYL TIN	0.082	UG/KG	U
2005	WB C-9	WB	WB C	GRAB	0	5	CM	METAL	ZINC	27.7	MG/KG	D
2005	WB C-9	WB	WB C	CORE	5	25	CM	METAL	ZINC	26.1	MG/KG	D
2005	WB C-9	WB	WB C	CORE	25	50	CM	METAL	ZINC	55.9	MG/KG	D
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.3	UG/KG	D
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	1.2	UG/KG	D
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	11	UG/KG	D
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	43	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	27	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	27	UG/KG	D
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	WB001	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	17	UG/KG	D
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	18	UG/KG	D
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	WB002	WB	WB N shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.79	MG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	20	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	41	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	20	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	20	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	20	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	20	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	14	UG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	4.1	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	32.4	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	COPPER	24	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	TPH	DRO	12	MG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	GRAIN	FINES	3.8	PCT	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	LEAD	26.2	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.06	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	NICKEL	29.6	MG/KG	D
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	200	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.76	MG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.15	MG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.0121	PCT	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2	UG/KG	U
1996	WB003	WB	SKR	SurfaceLocation	0	15.2	CM	METAL	ZINC	63.8	MG/KG	D
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	210	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	100	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	10	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	5.3	UG/KG	U
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	5.3	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB004	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	5.3	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	210	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	100	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	10	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	5.4	UG/KG	U
1996	WB005	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	5.4	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	100	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	210	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	100	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	100	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	100	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	100	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	100	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	10	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	5.2	UG/KG	U
1996	WB006	WB	SKR	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	5.2	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.81	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	3.7	MG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	130	UG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	26	MG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	110	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	COPPER	10.1	MG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	TPH	DRO	12	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	GRAIN	FINES	2.8	PCT	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	LEAD	14.2	MG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.03	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	NICKEL	23.5	MG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	210	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	140	UG/KG	D
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.78	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.15	MG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.0129	PCT	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2.2	UG/KG	U
1996	WB007	WB	WB C OutGG	SurfaceLocation	0	15.2	CM	METAL	ZINC	49.4	MG/KG	D
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	100	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	210	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	100	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	100	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	100	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	100	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	100	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	10	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	5.3	UG/KG	U
1996	WB008	WB	WB C OutHH	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	5.3	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	2-METHYLNAPHTHALENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	ACENAPHTHYLENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	ANTHRACENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.86	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	42	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	21	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	4	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)ANTHRACENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(A)PYRENE	140	UG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(B)FLUORANTHENE	240	UG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(G,H,I)PERYLENE	210	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	BENZO(K)FLUORANTHENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	34.5	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	CHRYSENE	100	UG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	COPPER	12.4	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	DIBENZO(A,H)ANTHRACENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	TPH	DRO	11	MG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	GRAIN	FINES	7.3	PCT	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	FLUORANTHENE	110	UG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	FLUORENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	INDENO(1,2,3-CD)PYRENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	LEAD	15.5	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.06	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	NAPHTHALENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	NICKEL	31.4	MG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH LOW	PHENANTHRENE	210	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	PAH HIGH	PYRENE	150	UG/KG	D
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.78	MG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.15	MG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	TOC	TOTAL ORGANIC CARBON	0.0126	PCT	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	TBT	TRIBUTYL TIN	2.1	UG/KG	U
1996	WB009	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ZINC	60.7	MG/KG	D
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.85	MG/KG	U
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	2.4	MG/KG	U
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	24	MG/KG	D
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	COPPER	6.5	MG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	LEAD	9	MG/KG	D
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.12	MG/KG	D
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	NICKEL	21.2	MG/KG	D
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.82	MG/KG	U
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.16	MG/KG	U
1996	WB010	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ZINC	38.5	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.87	MG/KG	U
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	2.6	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	24.5	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	COPPER	5.1	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	LEAD	8.4	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.04	MG/KG	U
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	NICKEL	21.7	MG/KG	D
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.85	MG/KG	U
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.16	MG/KG	U
1996	WB011	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ZINC	30	MG/KG	D
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.86	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	2.3	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	25.9	MG/KG	D
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	COPPER	7.2	MG/KG	D
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	LEAD	8.5	MG/KG	D
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.05	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	NICKEL	22.4	MG/KG	D
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.84	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.16	MG/KG	U
1996	WB012	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ZINC	30.8	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ANTIMONY	0.78	MG/KG	U
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ARSENIC	2.6	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CADMIUM	0.05	MG/KG	U
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	CHROMIUM	23.9	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	COPPER	5.4	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	LEAD	6.6	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	MERCURY	0.04	MG/KG	U
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	NICKEL	21.1	MG/KG	D
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SELENIUM	0.75	MG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	SILVER	0.15	MG/KG	U
1996	WB013	WB	WB C shore	SurfaceLocation	0	15.2	CM	METAL	ZINC	26.3	MG/KG	D
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	230	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	110	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	11	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	5.9	UG/KG	U
1996	WB014	WB	WB S shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	5.9	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	120	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	250	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	120	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	120	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	120	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	120	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	120	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	12	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	6.3	UG/KG	U
1996	WB016	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	6.3	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	48	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	24	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.4	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.2	UG/KG	U
1996	WB017	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.2	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	1.5	UG/KG	D

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	2.2	UG/KG	D
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	54	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	27	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	2.7	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.4	UG/KG	U
1996	WB018	WB	SS shore	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.4	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDD	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDE	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	DDT 44	4,4'-DDT	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ALDRIN	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ALPHA-BHC	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ALPHA-CHLORDANE	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1016	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1221	73	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1232	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1242	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1248	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1254	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	AROCLOR	AROCLOR-1260	36	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	DIELDRIN	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN I	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN II	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ENDOSULFAN SULFATE	3.6	UG/KG	U

Table A–5. Summary Table for Western Bayside Sediment Data (continued)

YEAR	STATION ID	AREA	SUB AREA	SAMPLE TYPE	DEPTH TOP	DEPTH BOTTOM	DEPTH UNIT	SUITE	ANALYTE	RESULT	UNITS	DETECT
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ENDRIN	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	ENDRIN ALDEHYDE	3.6	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	GAMMA-BHC	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	GAMMA-CHLORDANE	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR	1.8	UG/KG	U
1996	WB019	WB	SS OutU	SurfaceLocation	0	15.2	CM	PEST	HEPTACHLOR EPOXIDE	1.8	UG/KG	U

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW01	BB	Macoma Tissue	DDT 24	2,4'-DDD	1.4	0.24752	UG/KG	D
1998	BW01	BB	Macoma Tissue	DDT 24	2,4'-DDE	0.68	0.120224	UG/KG	U
1998	BW01	BB	Macoma Tissue	DDT 24	2,4'-DDT	0.75	0.1326	UG/KG	U
1998	BW01	BB	Macoma Tissue	DDT 44	4,4'-DDD	5.1	0.90168	UG/KG	D
1998	BW01	BB	Macoma Tissue	DDT 44	4,4'-DDE	10	1.768	UG/KG	D
1998	BW01	BB	Macoma Tissue	DDT 44	4,4'-DDT	0.85	0.15028	UG/KG	U
1998	BW01	BB	Macoma Tissue	METAL	ANTIMONY	0.045	0.008955	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	ARSENIC	25.48	5.07052	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	CADMIUM	0.266	0.052934	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	CHROMIUM	16.1	3.2039	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	COPPER	14.37	2.85963	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	LEAD	1.61	0.32039	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	MERCURY	0.05	0.00995	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	NICKEL	15.83	3.15017	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	SELENIUM	3	0.597	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	SILVER	0.211	0.041989	MG/KG	D
1998	BW01	BB	Macoma Tissue	METAL	ZINC	111	22.089	MG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	380	67.184	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	160	28.288	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	320	56.576	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	36	6.3648	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	93	16.4424	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	CHRYSENE	260	45.968	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	6.6	1.16688	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	FLUORANTHENE	820	144.976	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	34	6.0112	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH HIGH	PYRENE	1300	229.84	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH LOW	ACENAPHTHENE	2.6	0.45968	UG/KG	U
1998	BW01	BB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	17	3.0056	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH LOW	ANTHRACENE	90	15.912	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH LOW	FLUORENE	4.4	0.77792	UG/KG	D
1998	BW01	BB	Macoma Tissue	PAH LOW	NAPHTHALENE	43	7.6024	UG/KG	U
1998	BW01	BB	Macoma Tissue	PAH LOW	PHENANTHRENE	43	7.6024	UG/KG	U
1998	BW01	BB	Macoma Tissue	PEST	ALDRIN	0.41	0.072488	UG/KG	U
1998	BW01	BB	Macoma Tissue	PEST	ALPHA-CHLORDANE	0.55	0.09724	UG/KG	U
1998	BW01	BB	Macoma Tissue	PEST	DIELDRIN	1.7	0.30056	UG/KG	D

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW01	BB	Macoma Tissue	PEST	ENDRIN	0.48	0.084864	UG/KG	U
1998	BW01	BB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	1.5	0.2652	UG/KG	D
1998	BW01	BB	Macoma Tissue	PEST	HEPTACHLOR	0.55	0.09724	UG/KG	U
1998	BW01	BB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	0.48	0.084864	UG/KG	U
1998	BW01	BB	Macoma Tissue	TBT	TRIBUTYL TIN	15	2.985	UG/KG	D
1998	BW02	BB	Macoma Tissue	DDT 24	2,4'-DDD	0.58	0.102544	UG/KG	U
1998	BW02	BB	Macoma Tissue	DDT 24	2,4'-DDE	0.65	0.11492	UG/KG	U
1998	BW02	BB	Macoma Tissue	DDT 24	2,4'-DDT	0.72	0.127296	UG/KG	U
1998	BW02	BB	Macoma Tissue	DDT 44	4,4'-DDD	5.5	0.9724	UG/KG	D
1998	BW02	BB	Macoma Tissue	DDT 44	4,4'-DDE	9	1.5912	UG/KG	D
1998	BW02	BB	Macoma Tissue	DDT 44	4,4'-DDT	0.81	0.143208	UG/KG	U
1998	BW02	BB	Macoma Tissue	METAL	ANTIMONY	0.038	0.005054	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	ARSENIC	21.5	2.8595	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	CADMIUM	0.218	0.028994	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	CHROMIUM	35.3	4.6949	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	COPPER	11.73	1.56009	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	LEAD	1.58	0.21014	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	MERCURY	0.38	0.05054	MG/KG	U
1998	BW02	BB	Macoma Tissue	METAL	NICKEL	26.92	3.58036	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	SELENIUM	8	1.064	MG/KG	U
1998	BW02	BB	Macoma Tissue	METAL	SILVER	0.188	0.025004	MG/KG	D
1998	BW02	BB	Macoma Tissue	METAL	ZINC	105	13.965	MG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	100	17.68	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	50	8.84	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	90	15.912	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	20	3.536	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	35	6.188	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	CHRYSENE	78	13.7904	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.8	0.49504	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	FLUORANTHENE	190	33.592	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	13	2.2984	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH HIGH	PYRENE	300	53.04	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH LOW	ACENAPHTHENE	3.2	0.56576	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	9.8	1.73264	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH LOW	ANTHRACENE	43	7.6024	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH LOW	FLUORENE	5.4	0.95472	UG/KG	D

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW02	BB	Macoma Tissue	PAH LOW	NAPHTHALENE	7.4	1.30832	UG/KG	D
1998	BW02	BB	Macoma Tissue	PAH LOW	PHENANTHRENE	25	4.42	UG/KG	D
1998	BW02	BB	Macoma Tissue	PEST	ALDRIN	0.39	0.068952	UG/KG	U
1998	BW02	BB	Macoma Tissue	PEST	ALPHA-CHLORDANE	0.52	0.091936	UG/KG	U
1998	BW02	BB	Macoma Tissue	PEST	DIELDRIN	2	0.3536	UG/KG	D
1998	BW02	BB	Macoma Tissue	PEST	ENDRIN	0.46	0.081328	UG/KG	U
1998	BW02	BB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	0.46	0.081328	UG/KG	U
1998	BW02	BB	Macoma Tissue	PEST	HEPTACHLOR	0.52	0.091936	UG/KG	U
1998	BW02	BB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	0.46	0.081328	UG/KG	U
1998	BW02	BB	Macoma Tissue	TBT	TRIBUTYL TIN	23	3.059	UG/KG	D
1998	BW03	BB	Macoma Tissue	DDT 24	2,4'-DDD	1.4	0.24752	UG/KG	D
1998	BW03	BB	Macoma Tissue	DDT 24	2,4'-DDE	1.3	0.22984	UG/KG	U
1998	BW03	BB	Macoma Tissue	DDT 24	2,4'-DDT	1.4	0.24752	UG/KG	U
1998	BW03	BB	Macoma Tissue	DDT 44	4,4'-DDD	7.2	1.27296	UG/KG	D
1998	BW03	BB	Macoma Tissue	DDT 44	4,4'-DDE	4	0.7072	UG/KG	D
1998	BW03	BB	Macoma Tissue	DDT 44	4,4'-DDT	2.8	0.49504	UG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	ANTIMONY	0.037	0.008103	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	ARSENIC	13.74	3.00906	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	CADMIUM	0.187	0.040953	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	CHROMIUM	9.6	2.1024	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	COPPER	9	1.971	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	LEAD	1.19	0.26061	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	MERCURY	0.05	0.01095	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	NICKEL	8.08	1.76952	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	SELENIUM	1.4	0.3066	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	SILVER	0.146	0.031974	MG/KG	D
1998	BW03	BB	Macoma Tissue	METAL	ZINC	64.8	14.1912	MG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	39	6.8952	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	71	12.5528	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	110	19.448	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	38	6.7184	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	42	7.4256	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	CHRYSENE	48	8.4864	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	3.6	0.63648	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	FLUORANTHENE	100	17.68	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	24	4.2432	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH HIGH	PYRENE	110	19.448	UG/KG	D

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW03	BB	Macoma Tissue	PAH LOW	ACENAPHTHENE	2.5	0.442	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	4.3	0.76024	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH LOW	ANTHRACENE	18	3.1824	UG/KG	D
1998	BW03	BB	Macoma Tissue	PAH LOW	FLUORENE	3.1	0.54808	UG/KG	U
1998	BW03	BB	Macoma Tissue	PAH LOW	NAPHTHALENE	41	7.2488	UG/KG	U
1998	BW03	BB	Macoma Tissue	PAH LOW	PHENANTHRENE	41	7.2488	UG/KG	U
1998	BW03	BB	Macoma Tissue	PEST	ALDRIN	0.79	0.139672	UG/KG	U
1998	BW03	BB	Macoma Tissue	PEST	ALPHA-CHLORDANE	1	0.1768	UG/KG	U
1998	BW03	BB	Macoma Tissue	PEST	DIELDRIN	1.1	0.19448	UG/KG	D
1998	BW03	BB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	0.92	0.162656	UG/KG	U
1998	BW03	BB	Macoma Tissue	PEST	HEPTACHLOR	1	0.1768	UG/KG	U
1998	BW03	BB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	0.92	0.162656	UG/KG	U
1998	BW03	BB	Macoma Tissue	TBT	TRIBUTYL TIN	23	5.037	UG/KG	U
1998	BW04	BB	Macoma Tissue	DDT 24	2,4'-DDD	1.7	0.30056	UG/KG	D
1998	BW04	BB	Macoma Tissue	DDT 24	2,4'-DDE	1.4	0.24752	UG/KG	U
1998	BW04	BB	Macoma Tissue	DDT 24	2,4'-DDT	1.6	0.28288	UG/KG	U
1998	BW04	BB	Macoma Tissue	DDT 44	4,4'-DDD	6.3	1.11384	UG/KG	D
1998	BW04	BB	Macoma Tissue	DDT 44	4,4'-DDE	7.3	1.29064	UG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	ANTIMONY	0.041	0.007052	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	ARSENIC	24.3	4.1796	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	CADMIUM	0.221	0.038012	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	CHROMIUM	27.3	4.6956	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	COPPER	14.83	2.55076	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	LEAD	2.076	0.357072	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	MERCURY	0.06	0.01032	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	NICKEL	21.57	3.71004	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	SELENIUM	1.7	0.2924	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	SILVER	0.29	0.04988	MG/KG	D
1998	BW04	BB	Macoma Tissue	METAL	ZINC	99	17.028	MG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	51	9.0168	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	40	7.072	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	55	9.724	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	26	4.5968	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	40	7.072	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	CHRYSENE	51	9.0168	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.8	0.49504	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	FLUORANTHENE	100	17.68	UG/KG	D

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW04	BB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	17	3.0056	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH HIGH	PYRENE	140	24.752	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH LOW	ACENAPHTHENE	3.5	0.6188	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	4.4	0.77792	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH LOW	ANTHRACENE	12	2.1216	UG/KG	D
1998	BW04	BB	Macoma Tissue	PAH LOW	FLUORENE	45	7.956	UG/KG	U
1998	BW04	BB	Macoma Tissue	PAH LOW	NAPHTHALENE	45	7.956	UG/KG	U
1998	BW04	BB	Macoma Tissue	PAH LOW	PHENANTHRENE	45	7.956	UG/KG	U
1998	BW04	BB	Macoma Tissue	PEST	ALDRIN	0.86	0.152048	UG/KG	U
1998	BW04	BB	Macoma Tissue	PEST	ALPHA-CHLORDANE	1.1	0.19448	UG/KG	D
1998	BW04	BB	Macoma Tissue	PEST	DIELDRIN	2	0.3536	UG/KG	D
1998	BW04	BB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	1	0.1768	UG/KG	U
1998	BW04	BB	Macoma Tissue	PEST	HEPTACHLOR	1.1	0.19448	UG/KG	U
1998	BW04	BB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	1	0.1768	UG/KG	U
1998	BW04	BB	Macoma Tissue	TBT	TRIBUTYL TIN	29	4.988	UG/KG	U
1998	BW05	BB	Macoma Tissue	DDT 24	2,4'-DDD	1.7	0.30056	UG/KG	D
1998	BW05	BB	Macoma Tissue	DDT 24	2,4'-DDE	1.5	0.2652	UG/KG	U
1998	BW05	BB	Macoma Tissue	DDT 24	2,4'-DDT	1.7	0.30056	UG/KG	U
1998	BW05	BB	Macoma Tissue	DDT 44	4,4'-DDD	4.5	0.7956	UG/KG	D
1998	BW05	BB	Macoma Tissue	DDT 44	4,4'-DDE	6.1	1.07848	UG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	ANTIMONY	0.056	0.009016	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	ARSENIC	20.5	3.3005	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	CADMIUM	0.224	0.036064	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	CHROMIUM	68	10.948	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	COPPER	17.52	2.82072	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	LEAD	1.975	0.317975	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	MERCURY	0.06	0.00966	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	NICKEL	43.42	6.99062	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	SELENIUM	6	0.966	MG/KG	U
1998	BW05	BB	Macoma Tissue	METAL	SILVER	0.25	0.04025	MG/KG	D
1998	BW05	BB	Macoma Tissue	METAL	ZINC	93	14.973	MG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	30	5.304	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	30	5.304	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	41	7.2488	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	48	8.4864	UG/KG	U
1998	BW05	BB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	31	5.4808	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	CHRYSENE	33	5.8344	UG/KG	D

Table A-6. Summary Table for Breakwater Beach Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1998	BW05	BB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	2.2	0.38896	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	FLUORANTHENE	63	11.1384	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	13	2.2984	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH HIGH	PYRENE	86	15.2048	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH LOW	ACENAPHTHENE	4	0.7072	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	4.7	0.83096	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH LOW	ANTHRACENE	9.6	1.69728	UG/KG	D
1998	BW05	BB	Macoma Tissue	PAH LOW	FLUORENE	3.6	0.63648	UG/KG	U
1998	BW05	BB	Macoma Tissue	PAH LOW	NAPHTHALENE	48	8.4864	UG/KG	U
1998	BW05	BB	Macoma Tissue	PAH LOW	PHENANTHRENE	48	8.4864	UG/KG	U
1998	BW05	BB	Macoma Tissue	PEST	ALDRIN	0.92	0.162656	UG/KG	U
1998	BW05	BB	Macoma Tissue	PEST	ALPHA-CHLORDANE	1.2	0.21216	UG/KG	U
1998	BW05	BB	Macoma Tissue	PEST	DIELDRIN	1.8	0.31824	UG/KG	D
1998	BW05	BB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	1.1	0.19448	UG/KG	U
1998	BW05	BB	Macoma Tissue	PEST	HEPTACHLOR	1.2	0.21216	UG/KG	U
1998	BW05	BB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	1.1	0.19448	UG/KG	U
1998	BW05	BB	Macoma Tissue	TBT	TRIBUTYL TIN	31	4.991	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B02	WB	Macoma Tissue	DDT 44	4,4'-DDD	17	1.998	UG/KG	U
1993	B02	WB	Macoma Tissue	DDT 44	4,4'-DDE	17	1.998	UG/KG	U
1993	B02	WB	Macoma Tissue	DDT 44	4,4'-DDT	17	1.998	UG/KG	U
1993	B02	WB	Macoma Tissue	METAL	ANTIMONY	1	0.118	MG/KG	U
1993	B02	WB	Macoma Tissue	METAL	ARSENIC	23.6	2.774	MG/KG	D
1993	B02	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.0295	MG/KG	U
1993	B02	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.059	MG/KG	U
1993	B02	WB	Macoma Tissue	METAL	COPPER	7.5	0.8806	MG/KG	D
1993	B02	WB	Macoma Tissue	METAL	LEAD	0.98	0.1148	MG/KG	M
1993	B02	WB	Macoma Tissue	METAL	MERCURY	0.232	0.0274	MG/KG	D
1993	B02	WB	Macoma Tissue	METAL	NICKEL	4.66	0.5596	MG/KG	M
1993	B02	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.0295	MG/KG	U
1993	B02	WB	Macoma Tissue	METAL	SILVER	0.5	0.059	MG/KG	U
1993	B02	WB	Macoma Tissue	METAL	ZINC	107.6	12.796	MG/KG	D
1993	B02	WB	Macoma Tissue	PEST	ALDRIN	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ALPHA-BHC	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	DIELDRIN	8.5	0.999	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ENDOSULFAN I	8.5	0.999	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ENDOSULFAN II	8.5	0.999	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	8.5	0.999	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ENDRIN	8.5	0.999	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	17	1.998	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	HEPTACHLOR	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.24	0.4984	UG/KG	U
1993	B02	WB	Macoma Tissue	TBT	TRIBUTYL TIN	5	0.59	UG/KG	U
1993	B03	WB	Macoma Tissue	DDT 44	4,4'-DDD	17.2	2.028	UG/KG	U
1993	B03	WB	Macoma Tissue	DDT 44	4,4'-DDE	17.2	2.028	UG/KG	U
1993	B03	WB	Macoma Tissue	DDT 44	4,4'-DDT	17.2	2.028	UG/KG	U
1993	B03	WB	Macoma Tissue	METAL	ANTIMONY	1	0.118	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	ARSENIC	23.8	2.804	MG/KG	D
1993	B03	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.0295	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.059	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	COPPER	9.66	1.1392	MG/KG	D

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B03	WB	Macoma Tissue	METAL	LEAD	0.15	0.0177	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	MERCURY	0.01	0.00118	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	NICKEL	0.5	0.059	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.0295	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	SILVER	0.5	0.059	MG/KG	U
1993	B03	WB	Macoma Tissue	METAL	ZINC	88.4	10.408	MG/KG	D
1993	B03	WB	Macoma Tissue	PEST	ALDRIN	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ALPHA-BHC	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	DIELDRIN	8.46	0.997	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ENDOSULFAN I	8.46	0.997	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ENDOSULFAN II	8.46	0.997	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	8.46	0.997	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ENDRIN	8.46	0.997	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	17.2	2.028	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	HEPTACHLOR	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.26	0.5022	UG/KG	U
1993	B03	WB	Macoma Tissue	TBT	TRIBUTYL TIN	5	0.59	UG/KG	U
1993	B05	WB	Macoma Tissue	DDT 44	4,4'-DDD	17.2	1.986	UG/KG	U
1993	B05	WB	Macoma Tissue	DDT 44	4,4'-DDE	17.2	1.986	UG/KG	U
1993	B05	WB	Macoma Tissue	DDT 44	4,4'-DDT	17.2	1.986	UG/KG	U
1993	B05	WB	Macoma Tissue	METAL	ANTIMONY	1	0.116	MG/KG	U
1993	B05	WB	Macoma Tissue	METAL	ARSENIC	23.6	2.722	MG/KG	D
1993	B05	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.029	MG/KG	U
1993	B05	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.058	MG/KG	U
1993	B05	WB	Macoma Tissue	METAL	COPPER	8.28	0.9606	MG/KG	D
1993	B05	WB	Macoma Tissue	METAL	LEAD	0.73	0.0839	MG/KG	M
1993	B05	WB	Macoma Tissue	METAL	MERCURY	0.174	0.02002	MG/KG	D
1993	B05	WB	Macoma Tissue	METAL	NICKEL	4.9	0.5718	MG/KG	M
1993	B05	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.029	MG/KG	U
1993	B05	WB	Macoma Tissue	METAL	SILVER	0.5	0.058	MG/KG	U
1993	B05	WB	Macoma Tissue	METAL	ZINC	112	12.88	MG/KG	D
1993	B05	WB	Macoma Tissue	PEST	ALDRIN	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ALPHA-BHC	4.3	0.4966	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B05	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	DIELDRIN	8.66	1	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ENDOSULFAN I	8.66	1	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ENDOSULFAN II	8.66	1	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	8.66	1	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ENDRIN	8.66	1	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	17.2	1.986	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	HEPTACHLOR	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.3	0.4966	UG/KG	U
1993	B05	WB	Macoma Tissue	TBT	TRIBUTYL TIN	54	5.97	UG/KG	U
1993	B07	WB	Macoma Tissue	DDT 44	4,4'-DDD	18.4	1.984	UG/KG	U
1993	B07	WB	Macoma Tissue	DDT 44	4,4'-DDE	18.6	2.006	UG/KG	M
1993	B07	WB	Macoma Tissue	DDT 44	4,4'-DDT	18.4	1.984	UG/KG	U
1993	B07	WB	Macoma Tissue	METAL	ANTIMONY	1	0.108	MG/KG	U
1993	B07	WB	Macoma Tissue	METAL	ARSENIC	25	2.694	MG/KG	D
1993	B07	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.027	MG/KG	U
1993	B07	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.054	MG/KG	U
1993	B07	WB	Macoma Tissue	METAL	COPPER	8.6	0.9284	MG/KG	D
1993	B07	WB	Macoma Tissue	METAL	LEAD	4.07	0.4474	MG/KG	M
1993	B07	WB	Macoma Tissue	METAL	MERCURY	0.174	0.01876	MG/KG	D
1993	B07	WB	Macoma Tissue	METAL	NICKEL	6.82	0.7388	MG/KG	D
1993	B07	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.027	MG/KG	U
1993	B07	WB	Macoma Tissue	METAL	SILVER	0.5	0.054	MG/KG	U
1993	B07	WB	Macoma Tissue	METAL	ZINC	113.2	12.212	MG/KG	D
1993	B07	WB	Macoma Tissue	PEST	ALDRIN	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ALPHA-BHC	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	DIELDRIN	9.28	1.0008	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ENDOSULFAN I	9.28	1.0008	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ENDOSULFAN II	9.28	1.0008	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	9.28	1.0008	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ENDRIN	9.28	1.0008	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	18.4	1.984	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.6	0.496	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B07	WB	Macoma Tissue	PEST	HEPTACHLOR	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.6	0.496	UG/KG	U
1993	B07	WB	Macoma Tissue	TBT	TRIBUTYL TIN	54	5.93	UG/KG	U
1993	B11	WB	Macoma Tissue	DDT 44	4,4'-DDD	18.2	1.996	UG/KG	U
1993	B11	WB	Macoma Tissue	DDT 44	4,4'-DDE	18.2	1.996	UG/KG	U
1993	B11	WB	Macoma Tissue	DDT 44	4,4'-DDT	18.2	1.996	UG/KG	U
1993	B11	WB	Macoma Tissue	METAL	ANTIMONY	1	0.11	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	ARSENIC	19.8	2.174	MG/KG	D
1993	B11	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.0275	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.055	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	COPPER	15	1.654	MG/KG	D
1993	B11	WB	Macoma Tissue	METAL	LEAD	1.02	0.1151	MG/KG	M
1993	B11	WB	Macoma Tissue	METAL	MERCURY	0.01	0.0011	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	NICKEL	0.5	0.055	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.0275	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	SILVER	0.5	0.055	MG/KG	U
1993	B11	WB	Macoma Tissue	METAL	ZINC	73.2	8.066	MG/KG	D
1993	B11	WB	Macoma Tissue	PEST	ALDRIN	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ALPHA-BHC	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	DIELDRIN	9.12	0.9998	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ENDOSULFAN I	9.12	0.9998	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ENDOSULFAN II	9.12	0.9998	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	9.12	0.9998	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ENDRIN	9.12	0.9998	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	18.2	1.996	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	HEPTACHLOR	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.54	0.4978	UG/KG	U
1993	B11	WB	Macoma Tissue	TBT	TRIBUTYL TIN	5	0.55	UG/KG	U
1993	B13	WB	Macoma Tissue	DDT 44	4,4'-DDD	17	1.998	UG/KG	U
1993	B13	WB	Macoma Tissue	DDT 44	4,4'-DDE	17.2	2.024	UG/KG	M
1993	B13	WB	Macoma Tissue	DDT 44	4,4'-DDT	17	1.998	UG/KG	U
1993	B13	WB	Macoma Tissue	METAL	ANTIMONY	1	0.118	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	ARSENIC	26	3.064	MG/KG	D
1993	B13	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.0295	MG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B13	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.059	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	COPPER	10.6	1.248	MG/KG	D
1993	B13	WB	Macoma Tissue	METAL	LEAD	0.73	0.0844	MG/KG	M
1993	B13	WB	Macoma Tissue	METAL	MERCURY	0.01	0.00118	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	NICKEL	0.5	0.059	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.0295	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	SILVER	0.5	0.059	MG/KG	U
1993	B13	WB	Macoma Tissue	METAL	ZINC	90.2	10.634	MG/KG	D
1993	B13	WB	Macoma Tissue	PEST	ALDRIN	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ALPHA-BHC	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	DIELDRIN	8.5	0.999	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ENDOSULFAN I	8.5	0.999	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ENDOSULFAN II	8.5	0.999	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	8.5	0.999	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ENDRIN	8.5	0.999	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	17	1.998	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	HEPTACHLOR	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.24	0.4984	UG/KG	U
1993	B13	WB	Macoma Tissue	TBT	TRIBUTYL TIN	54	6.47	UG/KG	U
1993	B14	WB	Macoma Tissue	DDT 44	4,4'-DDD	17.8	1.992	UG/KG	U
1993	B14	WB	Macoma Tissue	DDT 44	4,4'-DDE	17.8	1.992	UG/KG	U
1993	B14	WB	Macoma Tissue	DDT 44	4,4'-DDT	17.8	1.992	UG/KG	U
1993	B14	WB	Macoma Tissue	METAL	ANTIMONY	1	0.112	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	ARSENIC	27	3.024	MG/KG	D
1993	B14	WB	Macoma Tissue	METAL	CADMIUM	0.25	0.028	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	CHROMIUM	0.5	0.056	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	COPPER	10.04	1.1244	MG/KG	D
1993	B14	WB	Macoma Tissue	METAL	LEAD	0.15	0.0168	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	MERCURY	0.01	0.00112	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	NICKEL	0.5	0.056	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	SELENIUM	0.25	0.028	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	SILVER	0.5	0.056	MG/KG	U
1993	B14	WB	Macoma Tissue	METAL	ZINC	90.6	10.126	MG/KG	D
1993	B14	WB	Macoma Tissue	PEST	ALDRIN	4.44	0.4968	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1993	B14	WB	Macoma Tissue	PEST	ALPHA-BHC	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ALPHA-CHLORDANE	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	DIELDRIN	8.94	1	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ENDOSULFAN I	8.94	1	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ENDOSULFAN II	8.94	1	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ENDOSULFAN SULFATE	8.94	1	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ENDRIN	8.94	1	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	ENDRIN ALDEHYDE	17.8	1.992	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	GAMMA-BHC (LINDANE)	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	GAMMA-CHLORDANE	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	HEPTACHLOR	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	PEST	HEPTACHLOR EPOXIDE	4.44	0.4968	UG/KG	U
1993	B14	WB	Macoma Tissue	TBT	TRIBUTYL TIN	5	0.56	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	CHRYSENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH HIGH	PYRENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	ANTHRACENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	FLUORENE	326	35.04	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	624	67.08	UG/KG	U
1994	B02	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	624	67.08	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	CHRYSENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	612	67.1	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1994	B03	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH HIGH	PYRENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	ANTHRACENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	FLUORENE	320	35.08	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	612	67.1	UG/KG	U
1994	B03	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	612	67.1	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	CHRYSENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH HIGH	PYRENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	ANTHRACENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	FLUORENE	332	35.12	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	634	67.06	UG/KG	U
1994	B05	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	634	67.06	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	CHRYSENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH HIGH	PYRENE	624	67.08	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1994	B07	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	ANTHRACENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	FLUORENE	326	35.04	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	624	67.08	UG/KG	U
1994	B07	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	624	67.08	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	CHRYSENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH HIGH	PYRENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	ANTHRACENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	FLUORENE	312.5	34.95	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	600	67.125	UG/KG	U
1994	B11	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	600	67.125	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	CHRYSENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH HIGH	PYRENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	624	67.08	UG/KG	U

Table A-7. Summary Table for Western Bayside Macoma Tissue Data (continued)

YEAR	STATION ID	AREA	SAMPLE TYPE	SUITE	ANALYTE	DRY RESULT	WET RESULT	UNITS	DETECT
1994	B13	WB	Macoma Tissue	PAH LOW	ANTHRACENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	FLUORENE	326	35.04	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	624	67.08	UG/KG	U
1994	B13	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	BENZO(A)ANTHRACENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	BENZO(A)PYRENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	BENZO(B)FLUORANTHENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	BENZO(G,H,I)PERYLENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	BENZO(K)FLUORANTHENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	CHRYSENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	DIBENZO(A,H)ANTHRACENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	FLUORANTHENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	INDENO(1,2,3-CD)PYRENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH HIGH	PYRENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	2-METHYLNAPHTHALENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	ACENAPHTHENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	ACENAPHTHYLENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	ANTHRACENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	FLUORENE	326	35.04	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	NAPHTHALENE	624	67.08	UG/KG	U
1994	B14	WB	Macoma Tissue	PAH LOW	PHENANTHRENE	624	67.08	UG/KG	U

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APPENDIX A

SUMMARY OF ANALYTICAL DATA IS CONTAINED IN ELECTRONIC FORMAT AND IS TOO VOLUMINOUS TO PRINT

TO VIEW THE DATA, CONTACT:

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APPENDIX B

BACKGROUND COMPARISON TEST

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This appendix contains additional information to support the data comparison to background concentrations. This appendix is organized in the following way:

The following tables are presented after the text:

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B.1 Tier 2 Screening Refinement

The Tier 2 screening refinement step involves comparison of the concentration distributions observed on site to ambient distributions using distribution shift tests. It corresponds to Step 3a of the Navy's ecological risk assessment (ERA) process. The steps involved in this process are described below.

1. Reach agreement on an adequate data set to represent ambient or background conditions, and prepare this data set in the same manner as the site data.

2. If adequate data are present for both the site and ambient conditions, perform distribution shift tests as per Navy guidance, i.e., the *t*-test, Gehan test, quantile test and slippage test (Department of the Navy [DON], 1999). If one or more tests fail, retain for full evaluation in the ERA. For constituents where all tests pass (we conclude they are within the ambient), consider the potential risk due to ambient concentrations in the uncertainty analysis of the risk characterization step.

3. When the detection rate is less than 50% in either the site or ambient data sets, a qualitative decision is made as to whether the site data are similar to ambient data. This is accomplished using summary statistics and boxplots. If the difference is marginal or cannot be made visually, the analyte is retained for full evaluation in the ERA.

A brief description of the distribution shift test methods and results are presented in the following paragraphs.

B.2 Distribution Shift Tests

Surface sediment chemistry results for the offshore areas were compared to data from San Francisco Bay ambient locations to determine if site-specific chemical concentrations were higher than ambient levels in San Francisco Bay. The data used to represent ambient conditions in San Francisco Bay were collected as part of the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the San Francisco Estuary Institute (SFEI) Regional Monitoring Program (RMP). All available sediment chemistry results from 1993 through 1997 from stations classified as ambient (San Francisco Bay Water Board, 1998) were used.

Distribution shift tests were conducted to statistically compare the data from each offshore site to the distribution of ambient concentrations. Each distribution shift test yielded a test statistic and an associated significance level (also known as a p-value). The significance level is the probability that the test statistic would be as large or larger than the one produced if the two data sets were from the same distribution (i.e., were both from the ambient distribution). A small significance level (i.e., <0.05) indicates that it is not likely that two given data sets come from the same distribution. Four distribution shift tests were used, the *t*-test, Gehan test (same as the Wilcoxon Rank Sum test with a robust ranking procedure to accommodate nondetects at multiple detection limits), quantile test and slippage test. The *t*-test and Gehan test assess complete shifts of central location in the distributions. The *t*-test evaluates differences between two population means while the Gehan test evaluates differences between two population medians. The quantile test and slippage test assess partial shifts between the two distributions. The quantile test compares the relative proportions of site and reference concentrations that are in the largest 25% of the data, i.e., data larger than the combined 75th percentile. A slippage test is used to determine whether the number of site concentrations larger than the maximum reference concentration is statistically significant. The distributional shift tests are used to provide statistical significance to the differences that can be seen in the box plots.

Ambient inorganic concentrations were influenced by grain size and ambient stations having less than 40% fines were categorized as "coarse" and with 40% or more fines as "fine" (San Francisco Bay Water

Board, 1998). Distribution shift tests for inorganic chemicals were based on grain size to the extent possible. In order to include all site samples in a comparison and to accommodate the intended grain size distinction, the tests were performed multiple ways. Identified fine grain samples from the site are compared to ambient fine grain results, identified coarse grain samples from the site are compared to ambient coarse grain results, the combined set of all site samples are compared to the combined set of ambient results. The distribution shift test results for inorganics based on results from all years are listed in Table B-1 (Breakwater Beach) and B-2 (Western Bayside).

A limited number of distributional tests also were conducted for the Western Bayside area that excluded the skeet range data. The specific constituents included in these analyses were PAHs and lead for combined years. The results from those analyses are listed in Table B-3.

In addition to the distributional tests for the combined set of results for all years, distributional tests were performed on the Western Bayside 2005 data alone to see if the more recent data would support the same conclusions. The results of those distribution shift tests are listed in Table B-4.

Distributional test results for organics based from all years are listed in Table B-5 (Breakwater Beach) and B-6 (Western Bayside). The tests were performed comparing the combined set of site samples to the combined set of ambient results. The organics totals (sums of analytes within a suite) are based on sums that use half detection limits for non-detects. Due to the higher detection limits and lower detection rates observed in samples collected prior to 2005, the majority of comparisons for organics resulted in no conclusion. To take advantage of lower detection limits obtained in 2005, the tests also were performed on the Western Bayside 2005 data. The distribution shift test results for organics based on results from 2005 are listed in Table B-7.

Compounds that failed any of the distribution shift tests or that could not be evaluated were carried forward as Tier 2 COPECs for evaluation in the BERA.

B.3 Table Interpretation

Distributional test results and final decisions for inorganic and organic constituents are presented in this appendix. A description of the results and column headings for those tables follows. The column labeled "D/N" represents the number of detects in the data set out of the total number of samples. The detect rate is the mathematical calculation of the number of detects divided by the total number of samples. These two quantities are presented for the site data as well as the ambient data. The "Test Results" column summarized the findings from the distributional tests that were performed on the data. Finally, the "Carry Forward" column presents a final decision for each constituent, either it is similar to ambient data (pass) or it should be carried through to the ERA (fail).

The inorganics tables (Tables B-1, B-2 and B-4) also contain a summary table. Since distributional testing was performed for fine, course and all stations, the summary table provides a single decision for each constituent. If all three tables reported a "pass" then the constituent was considered to be within ambient and labeled "pass" in the summary table. If any of the tests "failed," that constituent was reported in the summary table as a "fail" and is retained for full evaluation in the ERA. If the sample sizes were small or the detection rates were low, then the distributional tests could not be performed (those instances are denoted with a "---" in each of the three tables) and a decision was made based on summary statistics and visual examination of the boxplots.

References

Battelle, Blasland, Bouck & Lee, Inc., and Neptune & Company. 2005. *Final, Hunters Point Shipyard Parcel F Validation Study Report*. Prepared for Base Realignment and Closure Program Management Office West. May.

San Francisco Bay Water Board. 1998. *Ambient Concentrations of Toxic Chemicals in Sediments*. Prepared by T. Gandesbery, and F. Henzel of San Francisco Bay Water Board. April.

United States Department of the Navy. 1999. Handbook for Statistical Analysis of Environmental Background Data. Prepared by Southwest Division and Engineering Field Activity West, Naval Facilities Engineering Command.

Table B-1. Distribution Shift Test Results for Inorganics from Combined Years at Breakwater Beach

Constituent	Carry Forward	.D/N	Detect rate	Ambient D/N	Detect rate	Test Results[(a)]	Gehan test	quantile test	slippage test	t-test
Fine Stations										
ANTIMONY	No	19/25	0.76	20/20	1	P	0.986	0.888	0.556	0.995
ARSENIC	No	25/25	1	148/148	1	P	1	1	1	1
CADMIUM	---	12/25	0.48	148/148	1	---				
CHROMIUM	Yes	25/25	1	128/128	1	F	0.929	0.094	0.004	0.852
COPPER	Yes	25/25	1	147/147	1	F	0.391	0.028	0.145	0.344
LEAD	Yes	25/25	1	148/148	1	F	0.034	0.000	1	0.057
MERCURY	Yes	24/24	1	159/159	1	F	0.235	0.391	0.017	0.192
NICKEL	No	25/25	1	147/147	1	P	1	1	1	1
SELENIUM	---	10/25	0.4	142/148	0.959	---				
SILVER	Yes	13/25	0.52	136/136	1	F	0.274	NA	0.003	0.467
ZINC	No	25/25	1	148/148	1	P	0.470	0.250	0.145	0.466
Course Stations										
ANTIMONY	---	2/6	0.333	1/1	1	---				
ARSENIC	No	4/6	0.667	51/51	1	P	0.999	1	1	0.997
CADMIUM	---	0/6	0	51/51	1	---				
CHROMIUM	No	6/6	1	50/50	1	P	1	1	1	1
COPPER	No	6/6	1	47/47	1	P	0.978	0.532	1	0.940
LEAD	No	6/6	1	51/51	1	P	0.433	0.504	1	0.459
MERCURY	No	6/6	1	51/51	1	P	0.301	1	1	0.483
NICKEL	No	6/6	1	51/51	1	P	1	1	1	1
SELENIUM	---	0/6	0	51/51	1	---				
SILVER	---	1/6	0.167	42/44	0.955	---				
ZINC	No	6/6	1	51/51	1	P	0.974	0.504	1	0.943
All Stations										
ANTIMONY	No	21/31	0.677	21/21	1	P	0.996	0.830	0.596	0.999
ARSENIC	No	29/31	0.935	199/199	1	P	1	1	1	1
CADMIUM	Yes	12/31	0.387	199/199	1	---				
CHROMIUM	Yes	31/31	1	178/178	1	F	0.991	0.181	0.003	0.953
COPPER	No	31/31	1	194/194	1	P	0.468	0.075	0.138	0.416
LEAD	Yes	31/31	1	199/199	1	F	0.054	0.000	1.000	0.049

Table B-1. Distribution Shift Test Results for Inorganics from Combined Years at Breakwater Beach (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
MERCURY	Yes	30/30	1	211/211	1	F	0.242	0.049	0.015	0.169
NICKEL	No	31/31	1	198/198	1	P	1	1	1	1
SELENIUM	Yes	10/31	0.323	193/199	0.970	---				
SILVER	Yes	14/31	0.452	178/180	0.989	---				
ZINC	No	31/31	1	199/199	1	P	0.551	0.180	0.135	0.559

Summary	
ANTIMONY	No
ARSENIC	No
CADMIUM	Yes
CHROMIUM	Yes
COPPER	Yes
LEAD	Yes
MERCURY	Yes
NICKEL	No
SELENIUM	Yes
SILVER	Yes
ZINC	No

D/N=number of detected results / number of samples

(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-2. Distribution Shift Test Results for Inorganics from Combined Years at Western Bayside

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
Fine Stations										
ANTIMONY	Yes	12/19	0.632	20/20	1	F	0.389	0.047	0.000	0.001
ARSENIC	No	19/19	1	148/148	1	P	1	1	1	1
CADMIUM	No	12/19	0.632	148/148	1	P	0.991	1	1	0.995
CHROMIUM	Yes	19/19	1	128/128	1	F	0.315	0.107	0.002	0.222
COPPER	No	19/19	1	147/147	1	P	1	1	1	1
LEAD	Yes	42/42	1	148/148	1	F	0.001	0.000	0.221	0.161
MERCURY	No	18/18	1	159/159	1	P	0.781	0.853	0.102	0.402
NICKEL	No	19/19	1	147/147	1	P	1	1	1	1
SELENIUM	---	3/19	0.158	142/148	0.959	---				
SILVER	---	9/19	0.474	136/136	1	---				
ZINC	No	19/19	1	148/148	1	P	1	1	1	1
Course Stations										
ANTIMONY	---	5/21	0.238	1/1	1	---				
ARSENIC	No	21/21	1	51/51	1	P	1	1	1	1
CADMIUM	No	12/21	0.571	51/51	1	P	1.000	0.921	1	1.000
CHROMIUM	No	21/21	1	50/50	1	P	1	1	1	1
COPPER	No	21/21	1	47/47	1	P	1	1	1	1
LEAD	No	22/22	1	51/51	1	P	0.447	0.763	1	0.629
MERCURY	No	20/21	0.952	51/51	1	P	0.814	0.744	1	0.652
NICKEL	No	21/21	1	51/51	1	P	1	1	1	1
SELENIUM	---	0/21	0	51/51	1	---				
SILVER	No	13/21	0.619	42/44	0.955	P	0.389	NA	1	0.963
ZINC	No	21/21	1	51/51	1	P	1	1	1	1
All Stations										
ANTIMONY	Yes	17/44	0.386	21/21	1	---				
ARSENIC	No	42/44	0.955	199/199	1	P	1	1	1	1
CADMIUM	No	24/44	0.545	199/199	1	P	1	0.992	1	1
CHROMIUM	Yes	44/44	1	178/178	1	F	1	0.825	0.007	1
COPPER	No	44/44	1	194/194	1	P	1	1	1	1
LEAD	Yes	68/68	1	199/199	1	F	0.320	0.020	0.255	0.160

Table B-2. Distribution Shift Test Results for Inorganics from Combined Years at Western Bayside (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
MERCURY	No	39/43	0.907	211/211	1	P	1	0.995	0.169	0.997
NICKEL	No	44/44	1	198/198	1	P	1	1	1	1
SELENIUM	No	3/44	0.068	193/199	0.970	---				
SILVER	No	22/44	0.500	178/180	0.989	P	1	1	0.196	1
ZINC	No	44/44	1	199/199	1	P	1	1	1	1

Summary	
ANTIMONY	Yes
ARSENIC	No
CADMIUM	No
CHROMIUM	Yes
COPPER	No
LEAD	Yes
MERCURY	No
NICKEL	No
SELENIUM	No
SILVER	No
ZINC	No

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-3. Distribution Shift Test Results for PAHs and Lead from Combined Years Excluding Skeet Range Data at Western Bayside

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
PAHs - All Stations										
BENZO(A)ANTHRACENE	No	24/40	0.600	196/199	0.985	P	0.471	0.779	1	0.965
BENZO(A)PYRENE	No	34/40	0.850	192/199	0.965	P	0.573	0.192	1	0.762
BENZO(B)FLUORANTHENE	No	35/40	0.875	194/199	0.975	P	0.408	0.927	1	0.759
BENZO(G,H,I)PERYLENE	No	33/40	0.825	196/199	0.985	P	0.843	0.990	1	0.992
BENZO(K)FLUORANTHENE	Yes	24/40	0.600	188/199	0.945	F	0.005	0.192	1	0.247
CHRYSENE	No	30/40	0.750	193/199	0.970	P	0.194	0.192	0.167	0.347
DIBENZO(A,H)ANTHRACENE	Yes	21/40	0.525	164/199	0.824	F	0.000	NA	1	0.001
FLUORANTHENE	No	36/40	0.900	196/197	0.995	P	0.927	0.940	1	0.990
INDENO(1,2,3-CD)PYRENE	No	29/40	0.725	196/199	0.985	P	0.786	0.598	1	0.962
PERYLENE	---	0/0	0	165/185	0.892	---				
PYRENE	No	38/40	0.950	196/197	0.995	P	0.953	1	1	1.000
2-METHYLNAPHTHALENE	Yes	22/40	0.550	141/185	0.762	F	0.188	NA	1	0.001
ACENAPHTHENE	Yes	21/40	0.525	139/185	0.751	F	0.000	NA	1	0.000
ACENAPHTHYLENE	Yes	22/40	0.550	149/185	0.805	F	0.017	NA	1	0.004
ANTHRACENE	Yes	21/40	0.525	179/199	0.899	F	0.007	NA	0.167	0.395
FLUORENE	Yes	21/40	0.525	157/185	0.849	F	0.020	NA	1	0.032
NAPHTHALENE	No	22/40	0.550	143/160	0.894	P	0.236	NA	1	0.620
PHENANTHRENE	No	27/40	0.675	188/192	0.979	P	0.967	0.992	1	1
Fine Stations										
LEAD	No	19/19	1	148/148	1	P	0.570	1	1	0.844
Course Stations										
LEAD	No	21/21	1	51/51	1	P	0.522	0.744	1	0.644
All Stations										
LEAD	No	44/44	1	199/199	1	P	0.998	0.995	1	0.999
Totals, sum with nondetects = half detection limits - All Stations										
TOTAL HPAH (10)	No	38/40	0.95	197/197	1	P	0.629	0.811	1	0.863
TOTAL HPAH (6)	No	38/40	0.95	196/197	0.995	P	0.622	0.940	1	0.900
TOTAL LPAH (6)	No	27/40	0.675	156/160	0.975	P	0.073	NA	1	0.556
TOTAL LPAH (7)	No	27/40	0.675	156/160	0.975	P	0.061	NA	1	0.365

Table B-3. Distribution Shift Test Results for PAHs and Lead from Combined Years Excluding Skeet Range Data at Western Bayside (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
TOTAL PAH (12)	No	38/40	0.95	160/160	1	P	0.501	0.991	1	0.850
TOTAL PAH (13)	No	38/40	0.95	160/160	1	P	0.405	0.991	1	0.794

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-4. Distribution Shift Test Results for Inorganics from 2005 at Western Bayside

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
Fine Stations										
ANTIMONY	---	2/9	0.222	20/20	1	---				
ARSENIC	No	9/9	1	148/148	1	P	1	1	1	1
CADMIUM	No	9/9	1	148/148	1	P	0.293	1	1	0.356
CHROMIUM	No	9/9	1	128/128	1	P	1.000	1	1	1.000
COPPER	No	9/9	1	147/147	1	P	1	1	1	1
LEAD	No	9/9	1	148/148	1	P	0.570	1	1	0.757
MERCURY	No	8/8	1	159/159	1	P	0.871	1	1	0.961
NICKEL	No	9/9	1	147/147	1	P	1	1	1	1
SELENIUM	---	0/9	0	142/148	0.959	---				
SILVER	No	9/9	1	136/136	1	P	0.947	0.637	0.062	0.362
ZINC	No	9/9	1	148/148	1	P	1	1	1	1
Course Stations										
ANTIMONY	---	2/13	0.154	1/1	1	---				
ARSENIC	No	13/13	1	51/51	1	P	1	1	1	1
CADMIUM	No	12/13	0.923	51/51	1	P	0.984	0.814	1	0.965
CHROMIUM	No	13/13	1	50/50	1	P	1	1	1	1
COPPER	No	13/13	1	47/47	1	P	1	1	1	1
LEAD	No	13/13	1	51/51	1	P	0.483	0.814	1	0.606
MERCURY	No	13/13	1	51/51	1	P	0.877	0.437	1	0.569
NICKEL	No	13/13	1	51/51	1	P	1	1	1	1
SELENIUM	---	0/13	0	51/51	1	---				
SILVER	No	13/13	1	42/44	0.955	P	0.802	0.806	1	0.940
ZINC	No	13/13	1	51/51	1	P	1	1	1	1
All Stations										
ANTIMONY	No	4/22	0.182	21/21	1	---				
ARSENIC	No	22/22	1	199/199	1	P	1	1	1	1
CADMIUM	No	21/22	0.955	199/199	1	P	0.991	0.673	1	0.986
CHROMIUM	No	22/22	1	178/178	1	P	1	1	1	1
COPPER	No	22/22	1	194/194	1	P	1	1	1	1
LEAD	No	22/22	1	199/199	1	P	0.980	0.912	1	0.987

Table B-4. Distribution Shift Test Results for Inorganics from 2005 at Western Bayside (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
MERCURY	No	21/21	1	211/211	1	P	0.999	1	1	0.998
NICKEL	No	22/22	1	198/198	1	P	1	1	1	1
SELENIUM	No	0/22	0	193/199	0.970	---				
SILVER	No	22/22	1	178/180	0.989	P	1.000	0.671	0.109	0.903
ZINC	No	22/22	1	199/199	1	P	1	1	1	1

Summary	
ANTIMONY	No
ARSENIC	No
CADMIUM	No
CHROMIUM	No
COPPER	No
LEAD	No
MERCURY	No
NICKEL	No
SELENIUM	No
SILVER	No
ZINC	No

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-5. Distribution Shift Test Results for Organics from Combined Years at Breakwater Beach

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
Pesticides - All Stations										
2,4'-DDD	Yes	6/10	0.600	73/199	0.367	---				
2,4'-DDE	Yes	4/10	0.400	19/199	0.095	---				
2,4'-DDT	Yes	5/10	0.500	5/185	0.027	---				
4,4'-DDD	Yes	7/31	0.226	179/199	0.899	---				
4,4'-DDE	Yes	10/31	0.323	185/199	0.930	---				
4,4'-DDT	Yes	6/31	0.194	84/199	0.422	---				
ALDRIN	Yes	1/31	0.032	9/185	0.049	---				
ALPHA-BHC	Yes	0/26	0	28/199	0.141	---				
ALPHA-CHLORDANE	Yes	5/31	0.161	32/199	0.161	---				
DIELDRIN	Yes	5/31	0.161	64/199	0.322	---				
ENDOSULFAN I	Yes	0/26	0	0/21	0	---				
ENDOSULFAN II	Yes	1/26	0.038	1/21	0.048	---				
ENDOSULFAN SULFATE	Yes	0/26	0	0/21	0	---				
ENDRIN	Yes	0/31	0	17/185	0.092	---				
ENDRIN ALDEHYDE	Yes	0/26	0	0/0	NA	---				
GAMMA-BHC	Yes	0/28	0	0/0	NA	---				
GAMMA-CHLORDANE	Yes	5/26	0.192	29/178	0.163	---				
HEPTACHLOR	Yes	0/31	0	1/185	0.005	---				
HEPTACHLOR EPOXIDE	Yes	0/31	0	4/199	0.020	---				
PAHs - All Stations										
BENZO(A)ANTHRACENE	Yes	13/31	0.419	196/199	0.985	---				
BENZO(A)PYRENE	Yes	19/31	0.613	192/199	0.965	F	0.006	0.628	1	0.229
BENZO(B)FLUORANTHENE	Yes	19/31	0.613	194/199	0.975	F	0	0.180	1	0.049
BENZO(G,H,I)PERYLENE	No	15/31	0.484	196/199	0.985	---				
BENZO(K)FLUORANTHENE	Yes	13/31	0.419	188/199	0.945	---				
CHRYSENE	Yes	13/31	0.419	193/199	0.970	---				
DIBENZO(A,H)ANTHRACENE	Yes	10/31	0.323	164/199	0.824	---				
FLUORANTHENE	Yes	16/31	0.516	196/197	0.995	F	0.034	0.071	0.002	0.108
INDENO(1,2,3-CD)PYRENE	No	14/31	0.452	196/199	0.985	---				
PERYLENE	No	5/5	1	165/185	0.892	P	0.743	1	1	0.892

Table B-5. Distribution Shift Test Results for Organics from Combined Years at Breakwater Beach (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[(a)]	Gehan test	quantile test	slippage test	t-test
PYRENE	Yes	21/31	0.677	196/197	0.995	F	0.120	0.185	0.018	0.180
2-METHYLNAPHTHALENE	Yes	5/26	0.192	141/185	0.762	---				
ACENAPHTHENE	Yes	10/31	0.323	139/185	0.751	---				
ACENAPHTHYLENE	Yes	10/31	0.323	149/185	0.805	---				
ANTHRACENE	Yes	11/31	0.355	179/199	0.899	---				
FLUORENE	Yes	10/31	0.323	157/185	0.849	---				
NAPHTHALENE	Yes	10/31	0.323	143/160	0.894	---				
PHENANTHRENE	Yes	13/31	0.419	188/192	0.979	---				
Organotins - All Stations										
TRIBUTYL TIN	Yes	5/31	0.161	10/19	0.526	---				
Totals, sum with non-detects = half detection limits - All Stations										
TOTAL 4,4-DDx	Yes	11/31	0.355	189/199	0.950	---				
TOTAL DDx	No	10/10	1	175/185	0.950	P	0.245	1	1	0.766
TOTAL HPAH (10)	Yes	21/31	0.677	197/197	1	F	0.001	0.071	0.136	0.041
TOTAL HPAH (6)	Yes	21/31	0.677	196/197	0.995	F	0.001	0.071	0.136	0.032
TOTAL LPAH (7)	Yes	8/26	0.308	156/160	0.975	---				
TOTAL LPAH (6)	Yes	13/31	0.419	156/160	0.975	---				
TOTAL PAH (12)	Yes	21/31	0.677	160/160	1	F	0	NA	0.026	0.004
TOTAL PAH (13)	Yes	16/26	0.615	160/160	1	F	0	NA	0.019	0.003
Totals, sum with non-detects = 0 - All Stations										
TOTAL PCB	Yes	14/31	0.452	188/211	0.891	---				

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-6. Distribution Shift Test Results for Organics from Combined Years at Western Bayside

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
Pesticides - All Stations										
2,4'-DDD	No	4/21	0.190	73/199	0.367	---				
2,4'-DDE	No	2/21	0.095	19/199	0.095	---				
2,4'-DDT	No	2/21	0.095	5/185	0.027	---				
4,4'-DDD	Yes	24/50	0.480	179/199	0.899	---				
4,4'-DDE	Yes	23/50	0.460	185/199	0.930	---				
4,4'-DDT	No	21/50	0.420	84/199	0.422	---				
ALDRIN	Yes	1/50	0.020	9/185	0.049	---				
ALPHA-BHC	Yes	1/50	0.020	28/199	0.141	---				
ALPHA-CHLORDANE	Yes	5/50	0.100	32/199	0.161	---				
DIELDRIN	Yes	3/50	0.060	64/199	0.322	---				
ENDOSULFAN I	Yes	0/50	0	0/21	0	---				
ENDOSULFAN II	Yes	1/50	0.020	1/21	0.048	---				
ENDOSULFAN SULFATE	Yes	0/50	0	0/21	0	---				
ENDRIN	Yes	0/50	0	17/185	0.092	---				
ENDRIN ALDEHYDE	Yes	1/50	0.020	0/0	0	---				
GAMMA-BHC	Yes	1/50	0.020	0/0	0	---				
GAMMA-CHLORDANE	Yes	5/50	0.100	29/178	0.163	---				
HEPTACHLOR	Yes	1/50	0.020	1/185	0.005	---				
HEPTACHLOR EPOXIDE	Yes	1/50	0.020	4/199	0.020	---				
PAHs - All Stations										
BENZO(A)ANTHRACENE	Yes	59/91	0.648	196/199	0.985	F	0	0.273	0.030	0.018
BENZO(A)PYRENE	Yes	85/91	0.934	192/199	0.965	F	0	0.004	0.098	0
BENZO(B)FLUORANTHENE	Yes	85/91	0.934	194/199	0.975	F	0	0.004	1	0
BENZO(G,H,I)PERYLENE	Yes	82/91	0.901	196/199	0.985	F	0	0.156	1	0.011
BENZO(K)FLUORANTHENE	Yes	64/91	0.703	188/199	0.945	F	0	0.000	0.030	0
CHRYSENE	Yes	75/91	0.824	193/199	0.970	F	0	0.004	0.003	0
DIBENZO(A,H)ANTHRACENE	Yes	48/91	0.527	164/199	0.824	F	0	NA	0.076	0
FLUORANTHENE	Yes	86/91	0.945	196/197	0.995	F	0.001	0.436	0.099	0.012
INDENO(1,2,3-CD)PYRENE	Yes	74/91	0.813	196/199	0.985	F	0	0.273	1	0.033
PERYLENE	---	0/0	0.000	165/185	0.892	---				

Table B-6. Distribution Shift Test Results for Organics from Combined Years at Western Bayside (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
PYRENE	Yes	89/91	0.978	196/197	0.995	F	0	0.162	0.316	0.004
2-METHYLNAPHTHALENE	Yes	46/91	0.505	141/185	0.762	F	0	NA	0.209	0
ACENAPHTHENE	Yes	48/91	0.527	139/185	0.751	F	0	NA	1	0
ACENAPHTHYLENE	Yes	49/91	0.538	149/185	0.805	F	0	NA	0.055	0
ANTHRACENE	Yes	48/91	0.527	179/199	0.899	F	0	NA	0.098	0
FLUORENE	Yes	48/91	0.527	157/185	0.849	F	0	NA	1	0
NAPHTHALENE	Yes	48/91	0.527	143/160	0.894	F	0	NA	0.276	0
PHENANTHRENE	Yes	66/91	0.725	188/192	0.979	F	0	0.306	0.322	0.090
Organotins - All Stations										
TRIBUTYL TIN	Yes	26/40	0.650	10/19	0.526	F	0.218	0.085	0.000	0.070
Totals, sum with non-detects = half detection limits - All Stations										
TOTAL 4,4-DDx	Yes	27/50	0.540	189/199	0.950	F	0	NA	1	0.155
TOTAL DDx	No	21/21	1	175/185	0.946	P	0.592	0.908	1	0.790
TOTAL HPAH (10)	Yes	89/91	0.978	197/197	1	F	0	0.082	0.099	0
TOTAL HPAH (6)	Yes	89/91	0.978	196/197	0.995	F	0	0.037	0.099	0
TOTAL LPAH (6)	Yes	66/91	0.725	156/160	0.975	F	0	NA	0.000	0
TOTAL LPAH (7)	Yes	66/91	0.725	156/160	0.975	F	0	NA	0.000	0
TOTAL PAH (12)	Yes	89/91	0.978	160/160	1	F	0	0.006	0.131	0
TOTAL PAH (13)	Yes	89/91	0.978	160/160	1	F	0	0.006	0.131	0
Totals, sum with non-detects = 0 - All Stations										
TOTAL PCB	Yes	28/50	0.560	188/211	0.891	F	0.736	0.004	0.036	0.052

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

Table B-7. Distribution Shift Test Results for Organics from 2005 at Western Bayside

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[(a)]	Gehan test	quantile test	slippage test	t-test
Pesticides - All Stations										
2,4'-DDD	No	4/21	0.1905	73/199	0.367	---				
2,4'-DDE	No	2/21	0.0952	19/199	0.095	---				
2,4'-DDT	No	2/21	0.0952	5/185	0.027	---				
4,4'-DDD	No	21/21	1	179/199	0.899	P	0.733	0.902	0.095	0.536
4,4'-DDE	No	20/21	0.952	185/199	0.930	P	0.890	0.902	1	0.967
4,4'-DDT	No	18/21	0.857	84/199	0.422	---				
ALDRIN	No	1/21	0.048	9/185	0.049	---				
ALPHA-BHC	No	1/21	0.048	28/199	0.141	---				
ALPHA-CHLORDANE	No	4/21	0.190	32/199	0.161	---				
DIELDRIN	No	3/21	0.143	64/199	0.322	---				
ENDOSULFAN I	No	0/21	0	0/21	0	---				
ENDOSULFAN II	No	1/21	0.048	1/21	0.048	---				
ENDOSULFAN SULFATE	No	0/21	0	0/21	0	---				
ENDRIN	No	0/21	0	17/185	0.092	---				
ENDRIN ALDEHYDE	Yes	1/21	0.048	0/0	0	---				
GAMMA-BHC	Yes	1/21	0.048	0/0	0	---				
GAMMA-CHLORDANE	No	5/21	0.238	29/178	0.163	---				
HEPTACHLOR	No	1/21	0.048	1/185	0.005	---				
HEPTACHLOR EPOXIDE	No	1/21	0.048	4/199	0.020	---				
PAHs - All Stations										
BENZO(A)ANTHRACENE	No	22/22	1	196/199	0.985	P	0.755	0.378	1	0.674
BENZO(A)PYRENE	No	22/22	1	192/199	0.965	P	0.671	0.051	1	0.525
BENZO(B)FLUORANTHENE	No	22/22	1	194/199	0.975	P	0.896	0.673	1	0.883
BENZO(G,H,I)PERYLENE	No	22/22	1	196/199	0.985	P	0.914	0.912	1	0.952
BENZO(K)FLUORANTHENE	Yes	22/22	1	188/199	0.945	F	0.207	0.013	1	0.094
CHRYSENE	Yes	22/22	1	193/199	0.970	F	0.579	0.013	0.100	0.236
DIBENZO(A,H)ANTHRACENE	No	21/22	0.955	164/199	0.824	P	0.578	0.051	1	0.358
FLUORANTHENE	No	22/22	1	196/197	0.995	P	0.983	0.914	1	0.987
INDENO(1,2,3-CD)PYRENE	No	22/22	1	196/199	0.985	P	0.825	0.160	1	0.756
PERYLENE	---	0/0	0	165/185	0.892	---				

Table B-7. Distribution Shift Test Results for Organics from 2005 at Western Bayside (continued)

Constituent	Carry Forward	D/N	Detect rate	Ambient D/N	Detect rate	Test Results[a]	Gehan test	quantile test	slippage test	t-test
PYRENE	No	22/22	1	196/197	0.995	P	0.993	1	1	1
2-METHYLNAPHTHALENE	No	22/22	1	141/185	0.762	P	1	1	1	1
ACENAPHTHENE	No	21/22	0.955	139/185	0.751	P	0.882	0.391	1	0.6
ACENAPHTHYLENE	No	22/22	1	149/185	0.805	P	1	1	1	1
ANTHRACENE	No	21/22	0.955	179/199	0.899	P	0.964	0.673	0.100	0.67
FLUORENE	No	21/22	0.955	157/185	0.849	P	0.999	0.906	1	0.998
NAPHTHALENE	No	22/22	1	143/160	0.894	P	1	1	1	1
PHENANTHRENE	No	22/22	1	188/192	0.979	P	0.999	1	1	1
Organotins - All Stations										
TRIBUTYL TIN	No	17/22	0.773	10/19	0.526	F	0.653	1	0	0.966
Totals, sum with non-detects = half detection limits - All Stations										
TOTAL 4,4-DDx	No	21/21	1	189/199	0.950	P	0.393	0.902	1	0.745
TOTAL DDx	No	21/21	1	175/185	0.946	P	0.592	0.908	1	0.790
TOTAL HPAH (10)	No	22/22	1	197/197	1	P	0.860	0.384	1	0.845
TOTAL HPAH (6)	No	22/22	1	196/197	0.995	P	0.876	0.678	1	0.894
TOTAL LPAH (6)	No	22/22	1	156/160	0.975	P	0.999	0.925	1	1
TOTAL LPAH (7)	No	22/22	1	156/160	0.975	P	1	0.925	1	1
TOTAL PAH (12)	No	22/22	1	160/160	1	P	0.959	0.925	1	0.972
TOTAL PAH (13)	No	22/22	1	160/160	1	P	0.963	0.925	1	0.974
Totals, sum with non-detects = 0 - All Stations										
TOTAL PCB	Yes	21/21	1	188/211	0.891	F	0	0	1	0.001

D/N=number of detected results / number of samples
(a) P=pass. No statistically significant results for any of the distribution shift tests.
F=fail. One or more statistical tests indicate a shifted site distribution.

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APPENDIX C

DEVELOPMENT OF BIOACCUMULATION FACTORS

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This appendix contains additional information to support the derivation of bioaccumulation factors (BAF). This appendix is organized in the following way:

The following figures are presented after the text:

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C.1 Definition

Tissue concentrations of organisms exposed to sediments were used in conjunction with sediment chemistry results to quantify the biotic uptake rate. A bioaccumulation factor (BAF) was estimated for analytes accumulating into tissue for *Macoma* and forage fish. Sediment concentrations were measured at each location used as an exposure medium in *Macoma* bioassay tests so results were collocated. Sediment concentrations from locations within a fishing area were associated with the forage fish caught in that area.

There are many choices of models to estimate the relationship between two variables both of which vary from sample to sample. The general form of a BAF expressed as a single value or ratio (multiplier to predict tissue from sediment) rather than as a mathematical function of one or more independent variables (perhaps curvilinear) was chosen due to simplicity of form for use in risk assessment formulas.

An estimate of the response ratio using the sediment chemistry results and tissue results was chosen to model the bioaccumulation response. The following ratios of concentrations were estimated.

$$\text{BAF} = \frac{C_{tissue}}{C_{sed}}, \text{ where}$$

C_{sed} = COPEC-specific concentration in surface sediments (milligrams COPEC per kilograms sediment dry weight).

C_{tissue} = COPEC-specific concentration in tissue (milligrams COPEC per kilograms tissue, where tissue results are reported in dry weight for use in ecological risk assessment, or in wet weight for use in human health risk assessment)

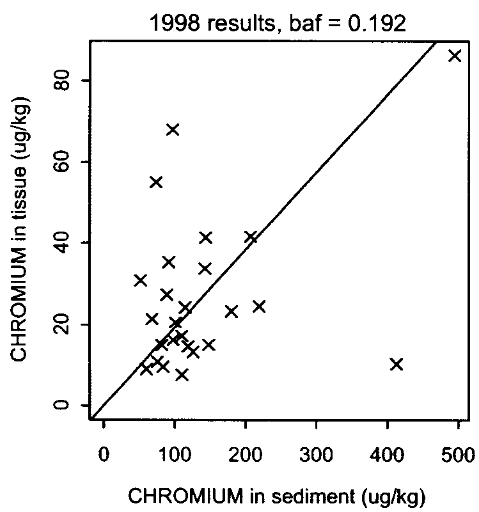
Inherent in the calculation of a ratio are a number of assumptions. With data in which it is believed that Y (tissue concentration) is proportional to X (sediment concentration), apart from sampling or analytical error, the data analyst may regard the objective as that of estimating the common ratio Y/X rather than a problem in regression. If the assumption of proportionality is correct, that is, if $Y = \beta X + \varepsilon$, the three quantities $\Sigma XY/\Sigma X^2$ ("regression through the origin" estimator), $\Sigma Y/\Sigma X$ ("ratio estimator") and $\Sigma\ (Y/X)$n ("average of point ratios") are all unbiased estimates of the population ratio β. The choice among the three is a question of precision (variability of the estimate). The most precise estimate is the first, second, or third above depending on whether the variance of ε is constant, proportional to X or proportional to X^2. If the variance of ε (error variance in tissue about the BAF line, e.g.: residuals) is expected to increase moderately as sediment concentrations increase, though the exact rate is not known, the estimate $\Sigma Y/\Sigma X$ (ratio estimator) usually does well, in addition to being the simplest of the three (Snedecor and Cochran, 1967).

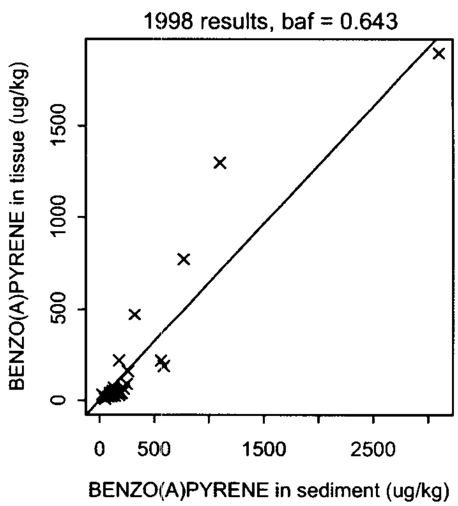
Use of any of the BAF estimates assumes that the ratio is constant across the range of sediment concentrations and that the line goes through the origin (when sediment concentration is zero then tissue concentration is zero). The "ratio estimator" (Cochran, 1963) was chosen to estimate the ratio between sediment and tissue. After plotting and reviewing the data pattern for analytes having detection rates greater than 50% in both sediment and tissue, the above precision criteria indicated that the ratio estimator was preferred for the majority of cases. The ratio estimate is simply the ratio of the averages of the two variables. Thus, the BAF is equal to the average tissue concentration divided by the average sediment concentration, using all paired sediment and tissue results. The ratio estimate has the advantage of being less biased than the average of the individual station ratios when the distribution of the station ratios is highly skewed. It is preferred over regression through the origin analyses that have slopes that may be dominated by a single influential point. The Appendix C BAF plots are presented to facilitate visual review of how well the BAF lines fit the data.

C.2 Macoma Bioaccumulation Factors

Sediment samples collected at Alameda Point areas in 1993 and 1998 were analyzed for sediment chemistry and used in bioassay tests as exposure medium for laboratory reared *Macoma nasuta*. The data was reviewed for suitability in calculating BAFs. The *Macoma* tissues from 1993 exposed to Alameda sediments produced no detected concentrations of organic constituents due to high detection limits. The achievement of better detection limits in *Macoma* tissues in 1998 made the data from that year more suitable for use in BAF calculations. Since the sediment concentrations collected in 1998 were representative of the range of concentrations at areas throughout Alameda Point and the *Macoma* tissue results were better quality, only the 1998 data were used to calculate BAFs to represent biotic uptake in *Macoma* for all areas in Alameda Point.

The bivariate plots in Example Figure 1 illustrate two examples of the data and the BAF calculation process. Each point represents the collocated sediment and tissue results at a single location. The sediment concentration is indicated by the position along the x-axis and the tissue concentration by the position along the y-axis. For both sediment and tissue, half the detection limit was used for results that were non-detect. The BAF calculation is represented by the line that passes through the origin (where both x and y are zero) and has a slope equal to the estimated ratio of biotic uptake. The scatter of points around the line provides an indication of the variability of the data and the strength of the relationship or correlation between concentrations in sediment and tissues. In Example Figure 1, the plot on the left indicates that chromium exhibits a relatively weak relationship or low correlation (loose scatter of points about the BAF line) and that benzo(a)pyrene exhibits a more consistent pattern or stronger correlation (points closer to BAF line). The complete set of *Macoma* BAF plots (based on dry weight tissue) are shown in Figures C-1 through C-8.

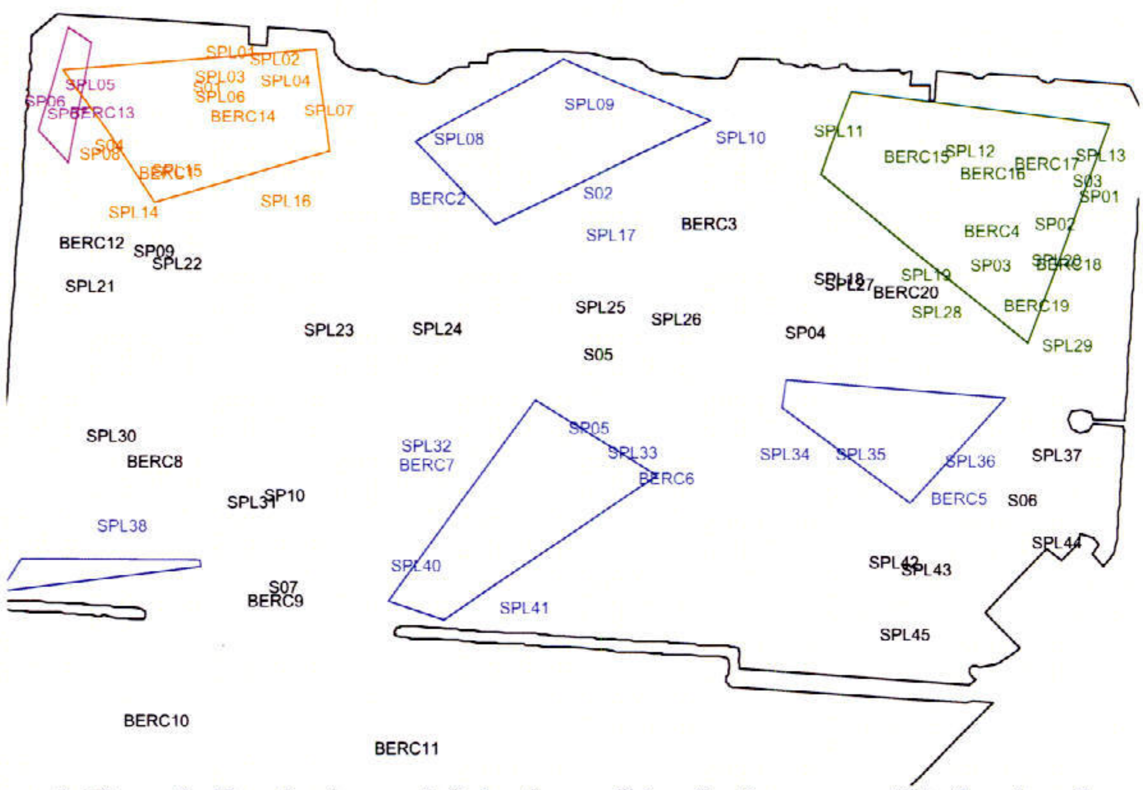




Example Figure 1. Bivariate plots of chromium and benzo(a)pyrene concentrations from sediment and *Macoma* tissue exposures at Alameda Point stations. The slope of the line is the BAF ratio.

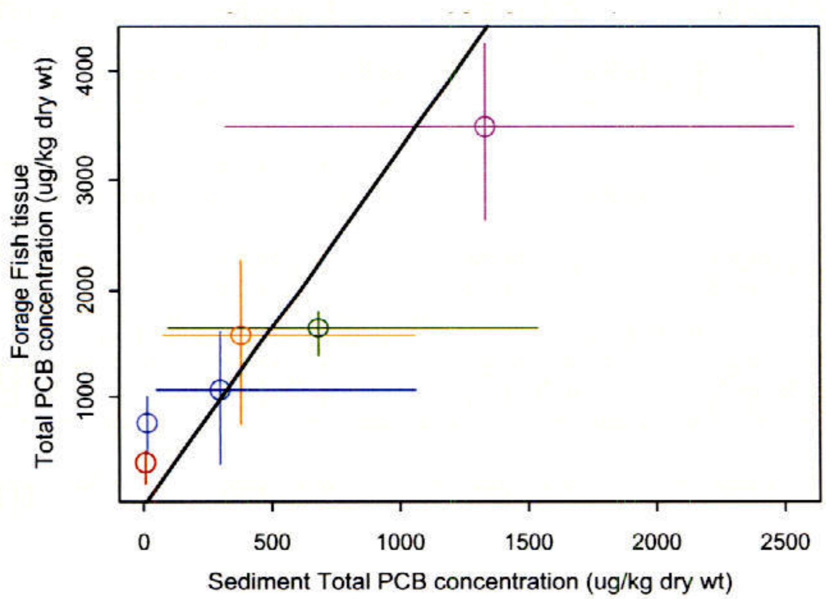
C.3 Forage Fish Bioaccumulation Factors

Forage fish were collected from IR Site 17 (Seaplane Lagoon) and two San Francisco Bay reference areas, Bay Farms and Paradise Cove, in support of the Seaplane Lagoon RI. No forage fish have been collected from other Alameda Point offshore areas. The BAF calculations for the Seaplane Lagoon RI were intended to represent the uptake rate specific to Seaplane Lagoon and based on fish and sediments from Seaplane Lagoon only. The sediment concentrations in Western Bayside and Breakwater Beach generally fall between those observed in Seaplane Lagoon and the reference areas. In order to model biotic uptake across the expected range of sediment concentrations, the BAFs for this investigation are calculated using the results from both Seaplane Lagoon and the reference areas. The sediment data used to represent forage fish exposure concentrations were collected from the same general areas. The Seaplane Lagoon sediment areas were defined by circumscribing a polygon around the trawl lines used during fish collection (Example Figure 2). Sediment samples collected over the years from within the polygon were used to represent the sediment concentration of the polygon. Forage fish samples were composite tissue samples of the fish collected within the polygon. Similarly, sediments and fish tissue were collected in the same general areas at each of the two reference locations. For both sediment and tissue, half the detection limit was used for results that were non-detect.



Example Figure 2. Trawl polygons defining forage fish collection areas within Seaplane Lagoon. Polygons in navy blue collectively define collection area distant from outfalls. Sediment stations used to characterize a trawl polygon are labeled in the same color as the trawl line.

Based on this sampling scenario, sediment and tissue results are proximal rather than collocated and a point by point pairing of sediment and tissue results is not possible. Therefore, an approach of pairing average fish concentrations with average sediment concentrations from each collection area was applied. Example Figure 3 illustrates the data pairing and BAF calculation results for Total PCBs. The concentration results in Example Figure 3 are plotted in the same colors as the trawl polygons in Example Figure 2 so the viewer can make a visual association. The reference areas are plotted in red (Paradise Cove) and light blue (Bay Farms). The results are plotted as a crossed vertical line and horizontal line with the intersection point circled. The range of sediment concentrations for a collection area is indicated by the horizontal line and the range of tissue concentrations is indicated by the vertical line. The lines cross at the average or mean concentrations for the tissue and sediment results. The BAF estimate of the uptake rate is presented as the slope of the black line. Note that a measure of the uncertainty associated with this calculation can be summarized by the lengths of the horizontal and vertical lines that show the ranges of sample concentrations. The circled mean concentrations indicate the central trend within each sampling area and their pattern and distance from the BAF line is a measure of the correlation or strength of the overall association. The complete set of forage fish BAF plots (based on dry weight tissue) are shown in Figures C-9 through C-22.



Example Figure 3. Bivariate plot of sediment vs. tissue concentrations of Total PCBs. The BAF ratio is presented as the slope of the diagonal black line.

References

Cochran, W.G. 1963. *Sampling Techniques*. Second Edition. John Wiley and Sons, Inc., New York.

Snedecor, G.W. and W.G. Cochran. 1967. *Statistical Methods*. Iowa State University Press, Ames, IA.

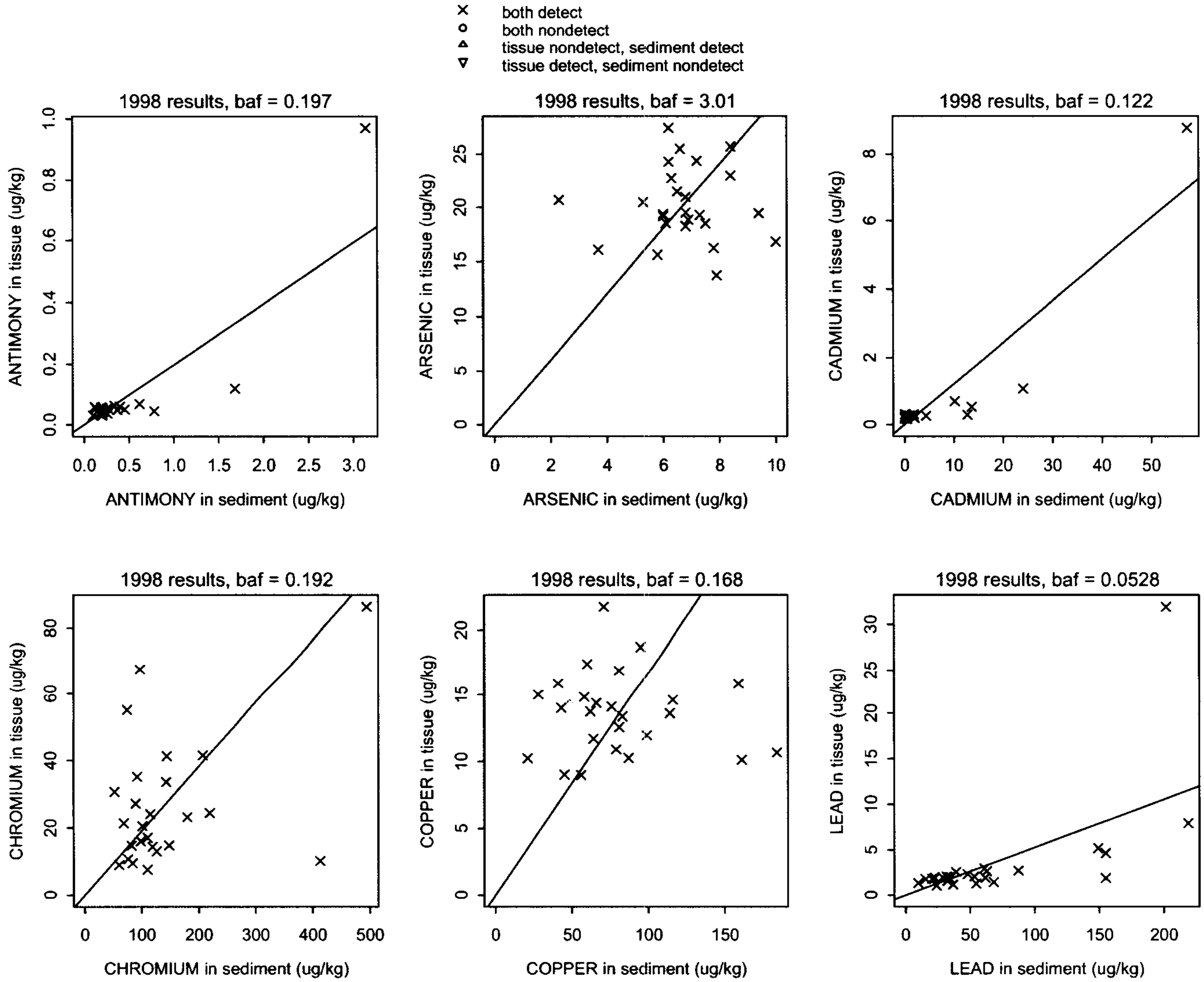


Figure C-1. *Macoma* BAFs (tissue in dry wt) for antimony, arsenic, cadmium, chromium, copper, lead

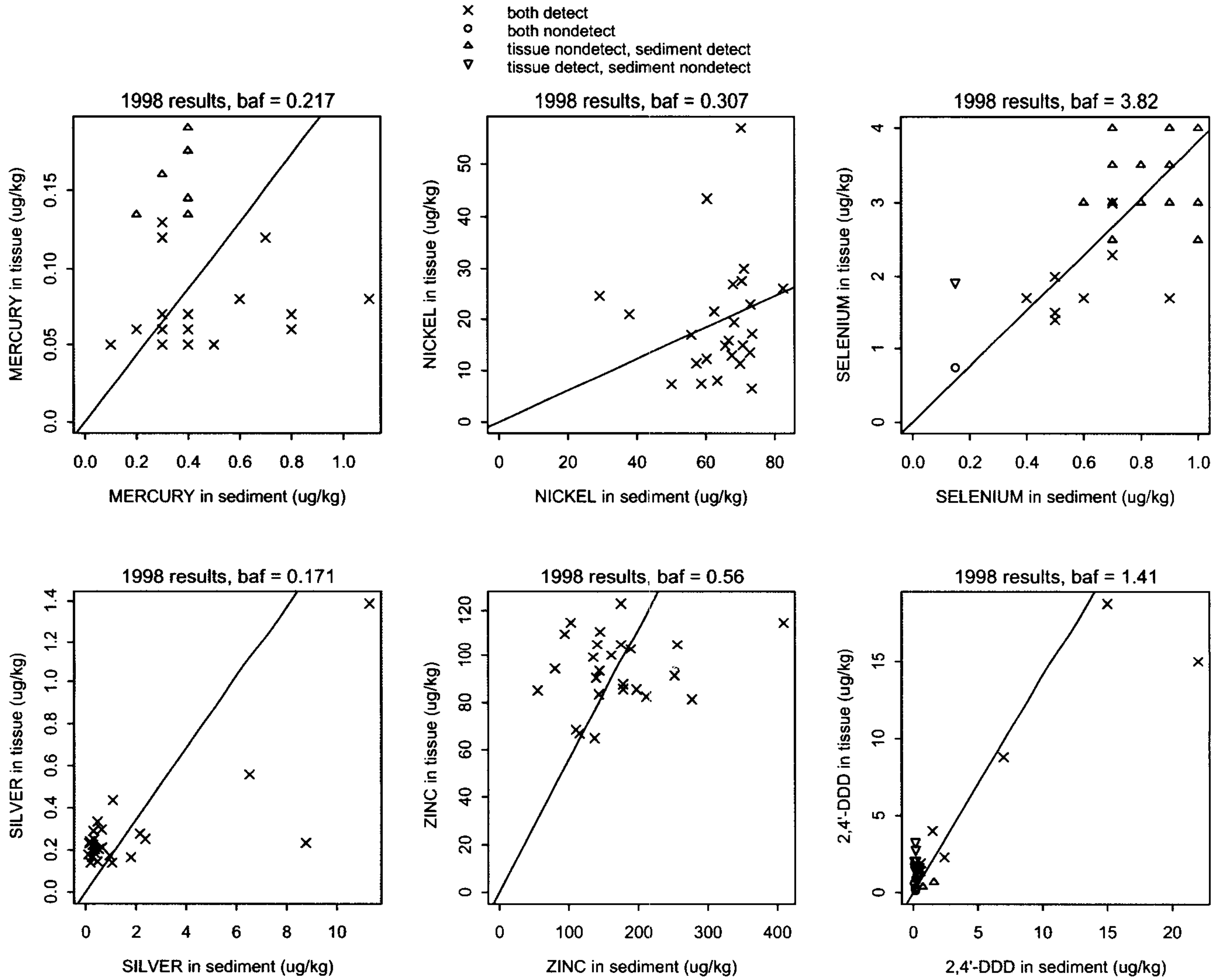


Figure C-2. ***Macoma*** **BAFs (tissue in dry wt) for mercury, nickel, selenium, silver, zinc, 2,4'DDD**

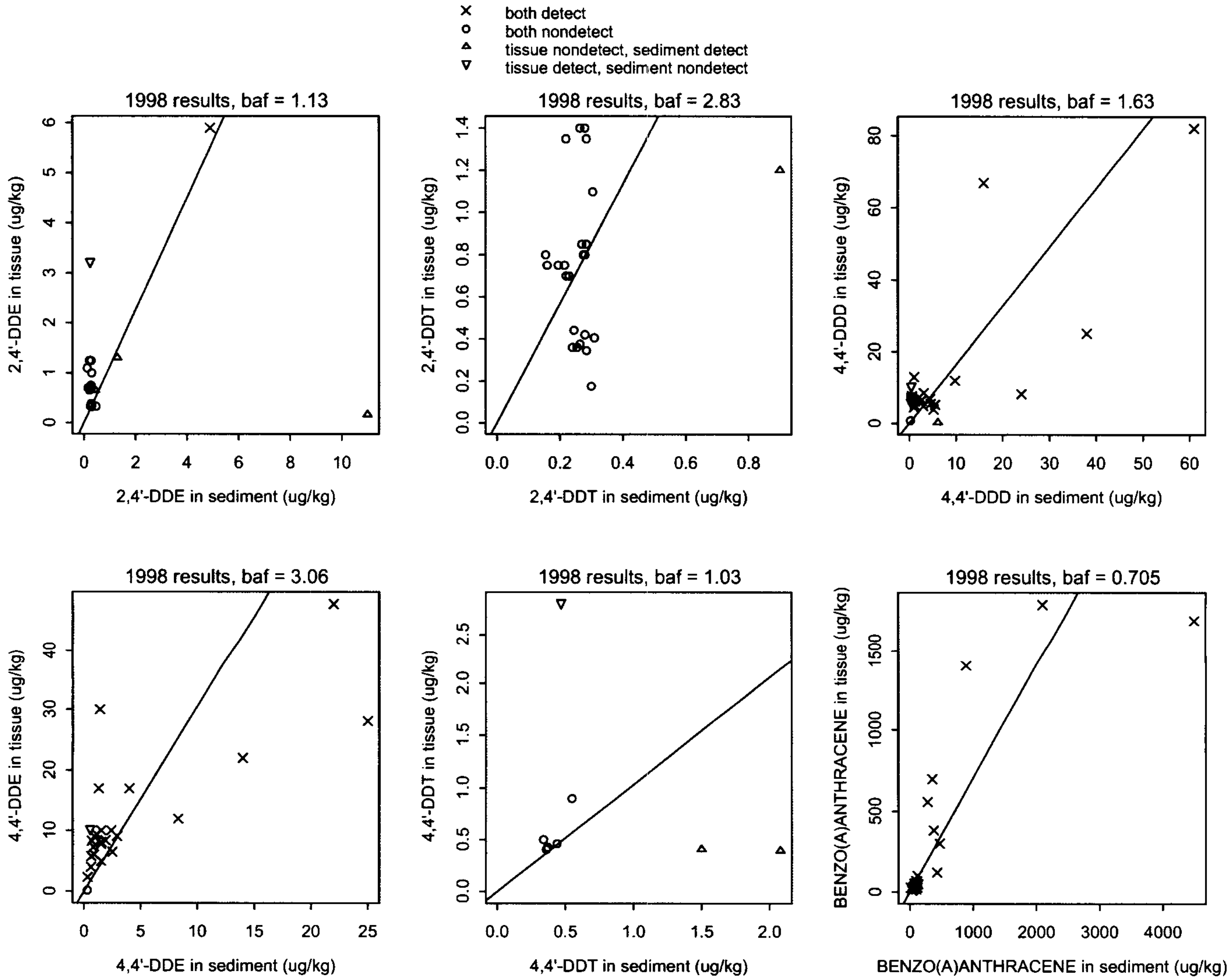


Figure C-3. ***Macoma*** **BAFs (tissue in dry wt) for 2,4'DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, benzo(a)anthracene**

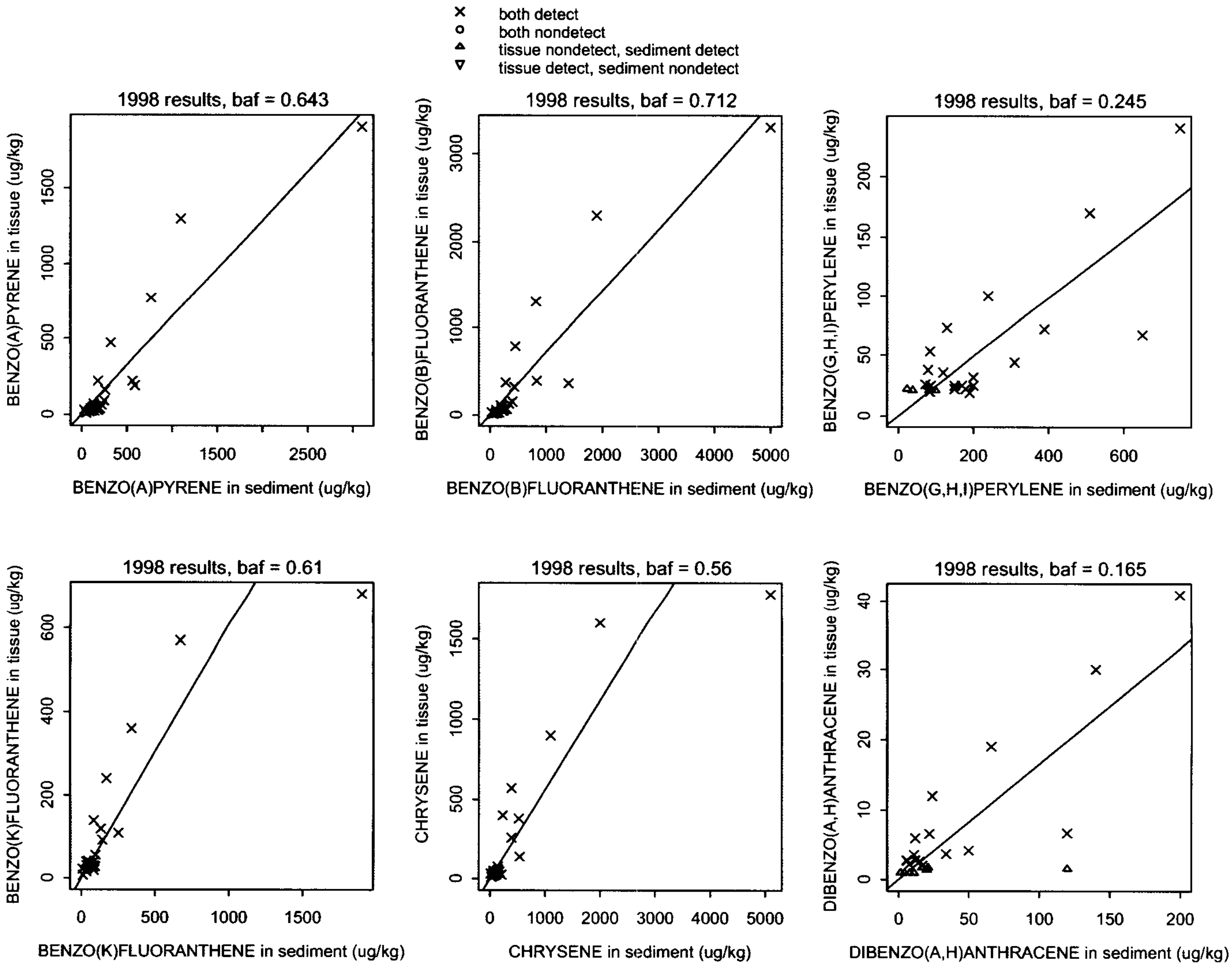


Figure C-4. ***Macoma*** **BAFs (tissue in dry wt) for benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene**

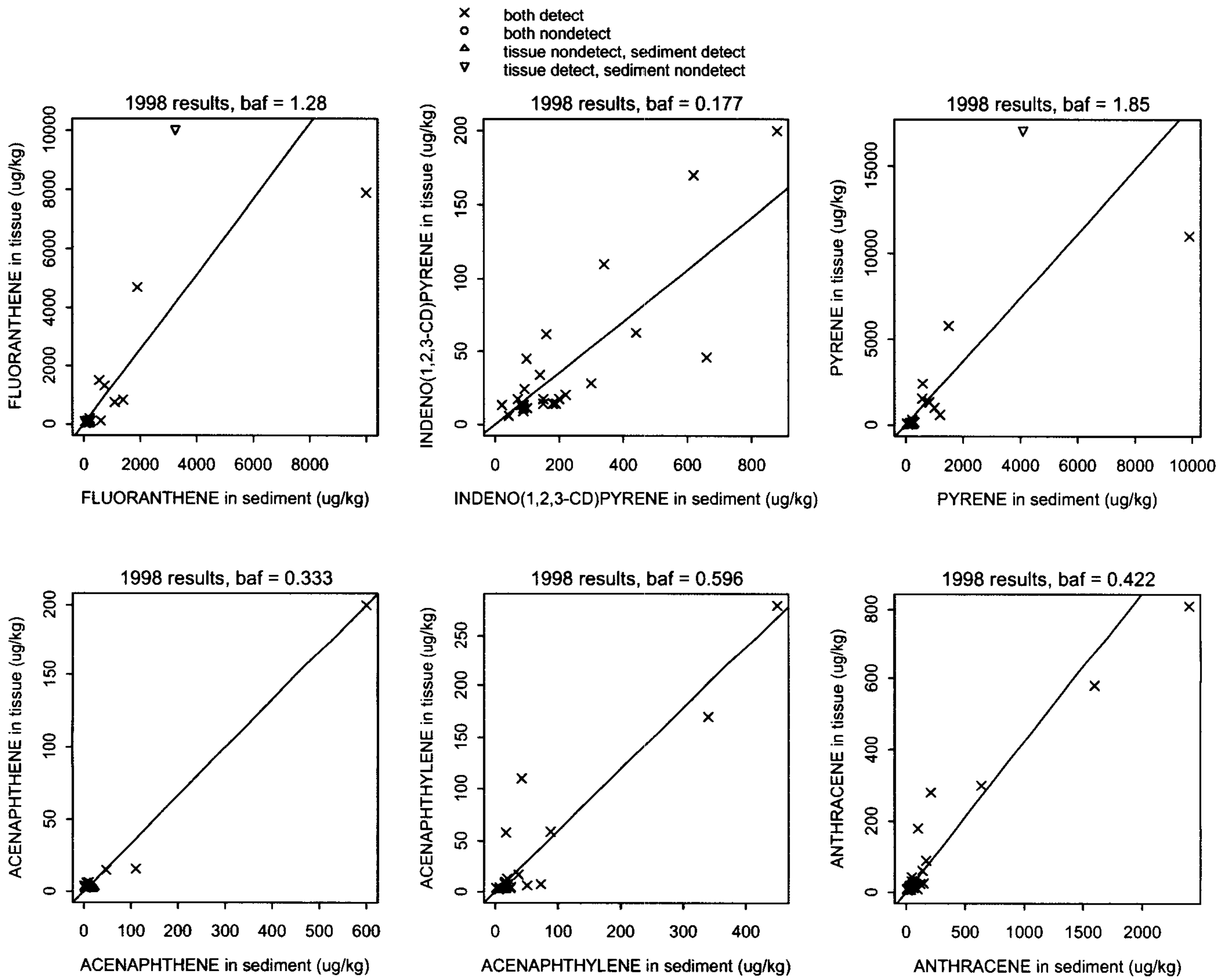


Figure C-5. *Macoma* BAFs (tissue in dry wt) for fluoranthene, indeno(1,2,3-cd)pyrene, pyrene, acenapthene, acenapthylene, anthracene

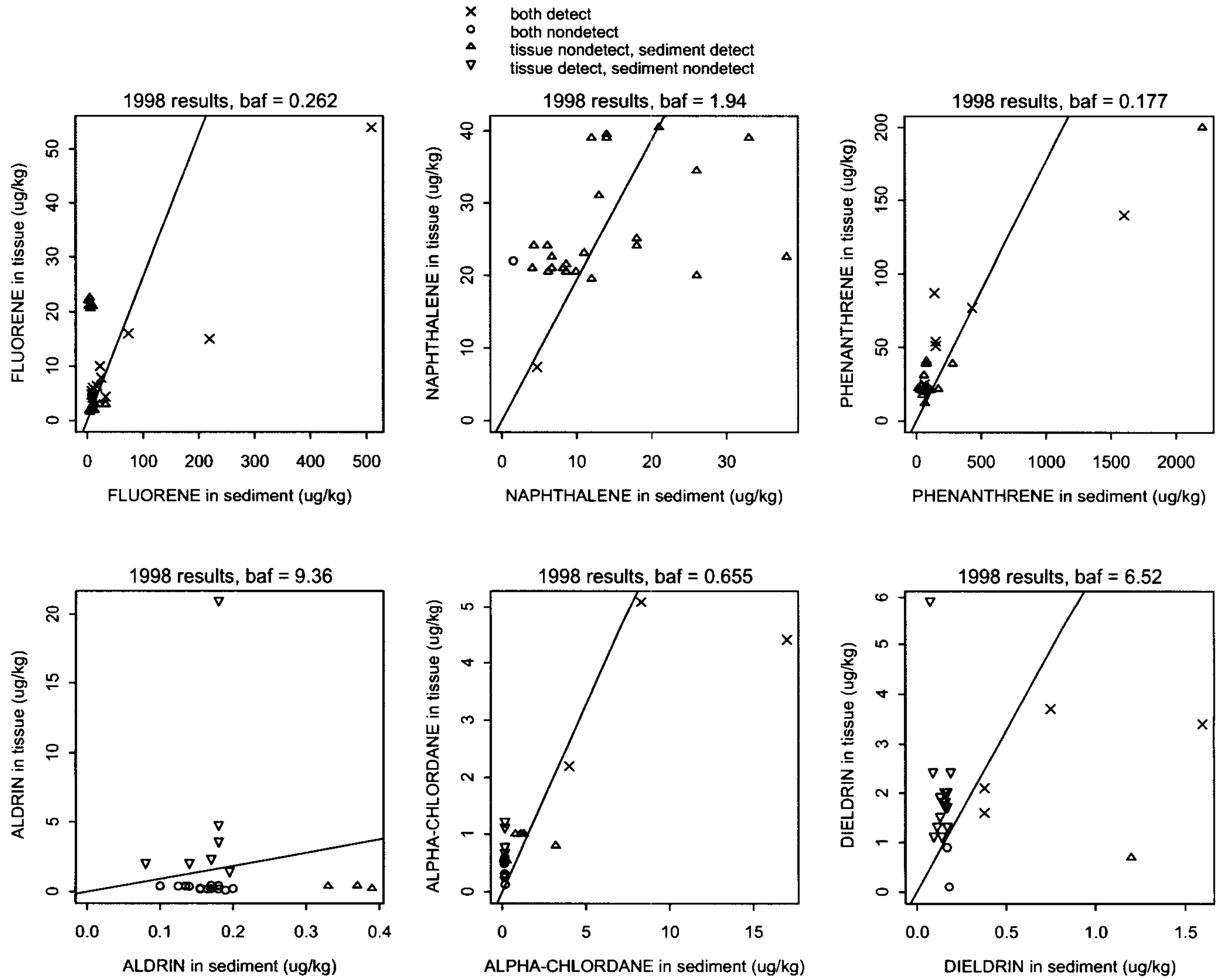


Figure C-6. ***Macoma*** **BAFs (tissue in dry wt) for fluorene, naphthalene, phenanthrene, aldrin, alpha-chlordane, dieldrin**

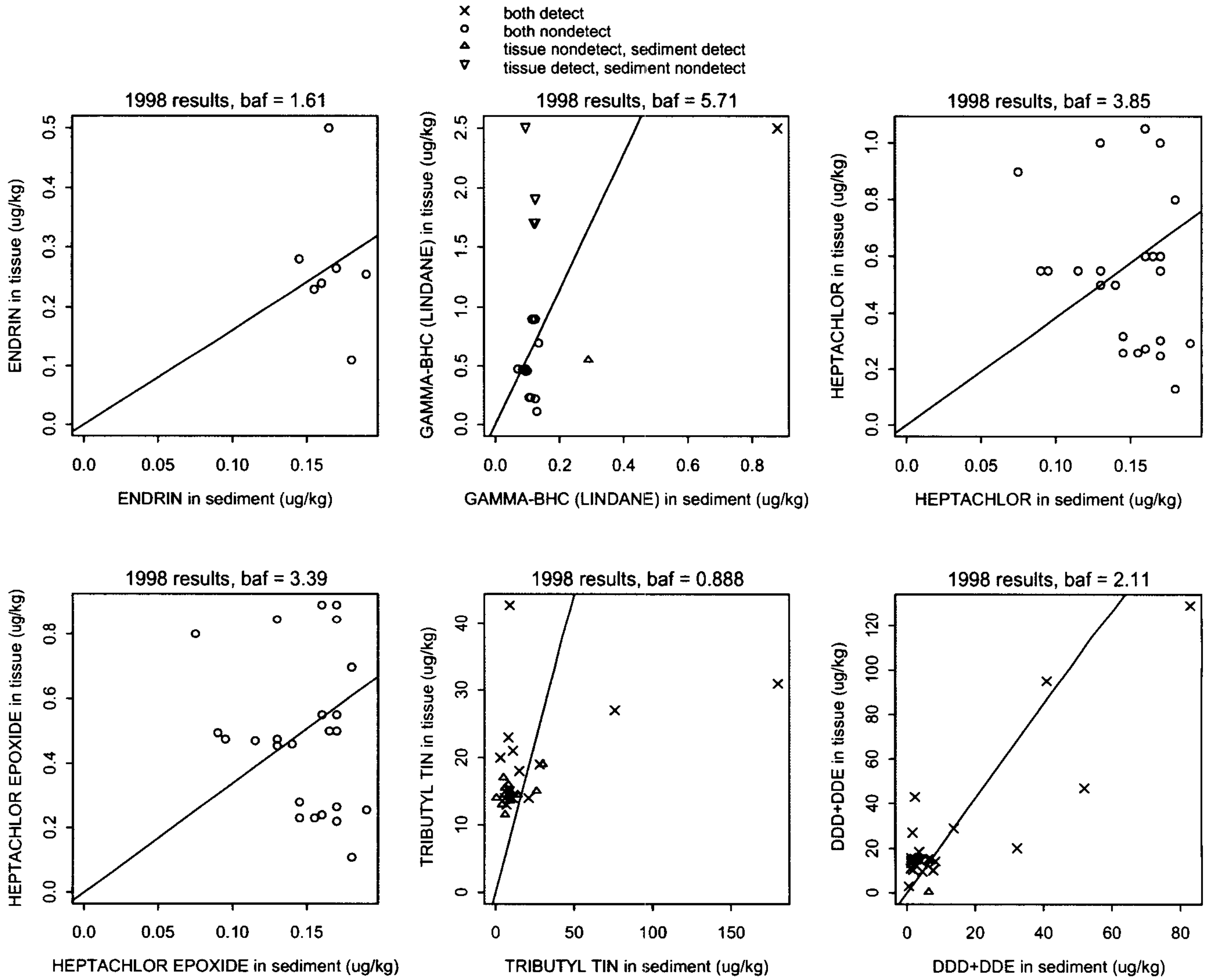


Figure C-7. ***Macoma*** **BAFs (tissue in dry wt) for endrin, gamma-BHC (Lindane), heptachlor, heptachlor epoxide, tributyl tin, DDD+DDE**

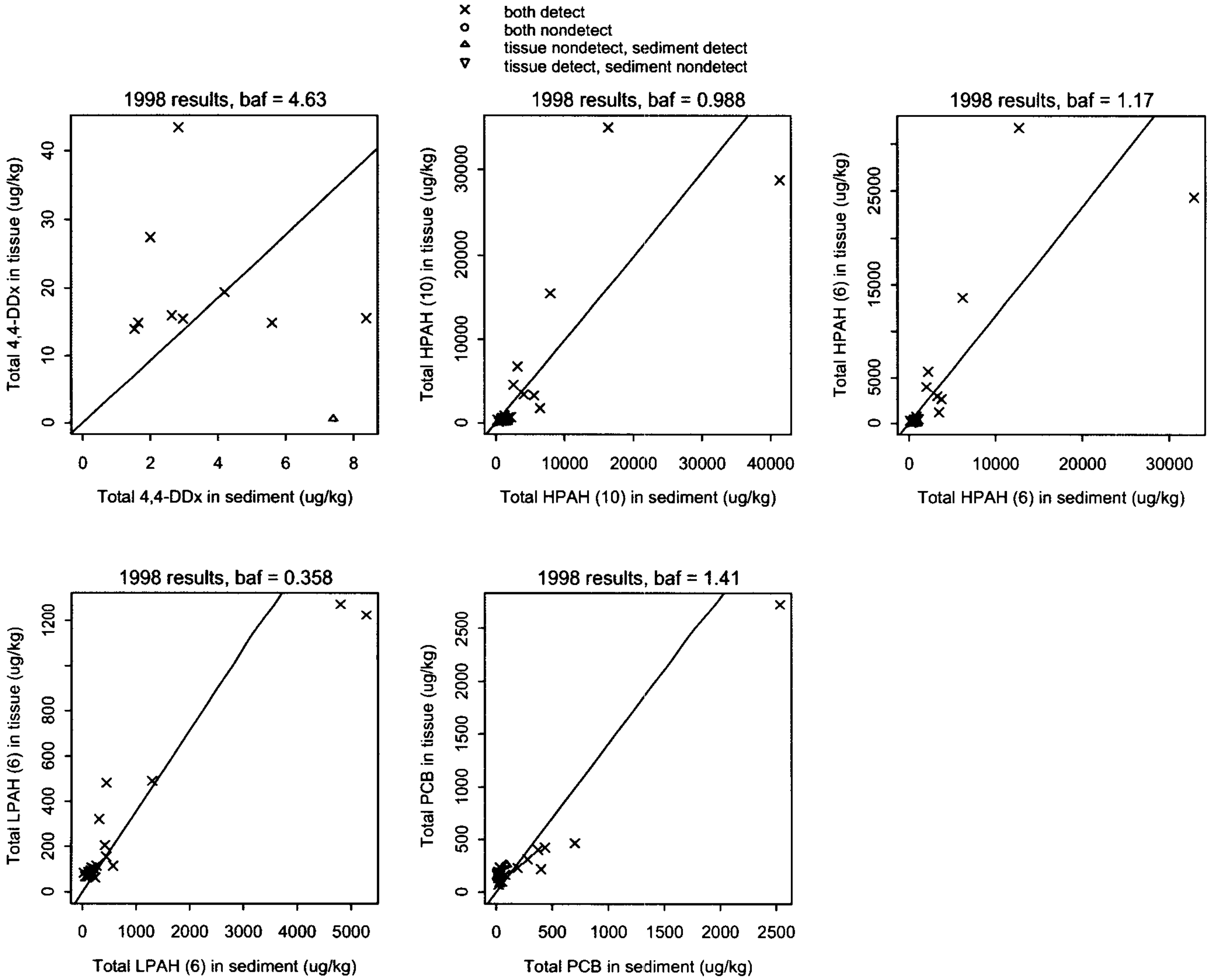


Figure C-8. ***Macoma*** **BAFs (tissue in dry wt) for Total 4,4-DDx, Total HPAH(10), Total HPAH (6), Total LPAH (6), Total PCB**

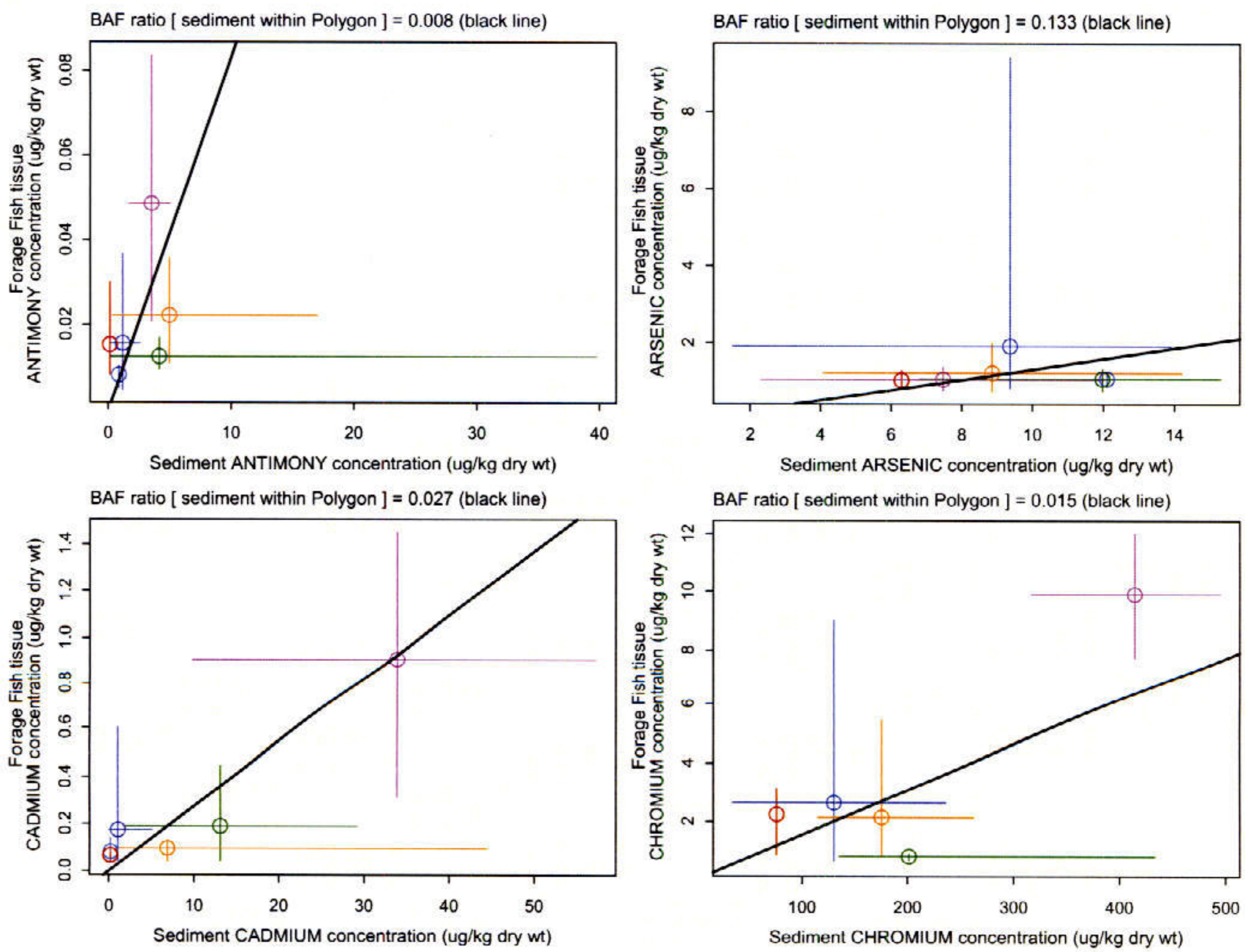


Figure C-9. Forage fish BAFs (tissue in dry wt) for antimony, arsenic, cadmium, chromium

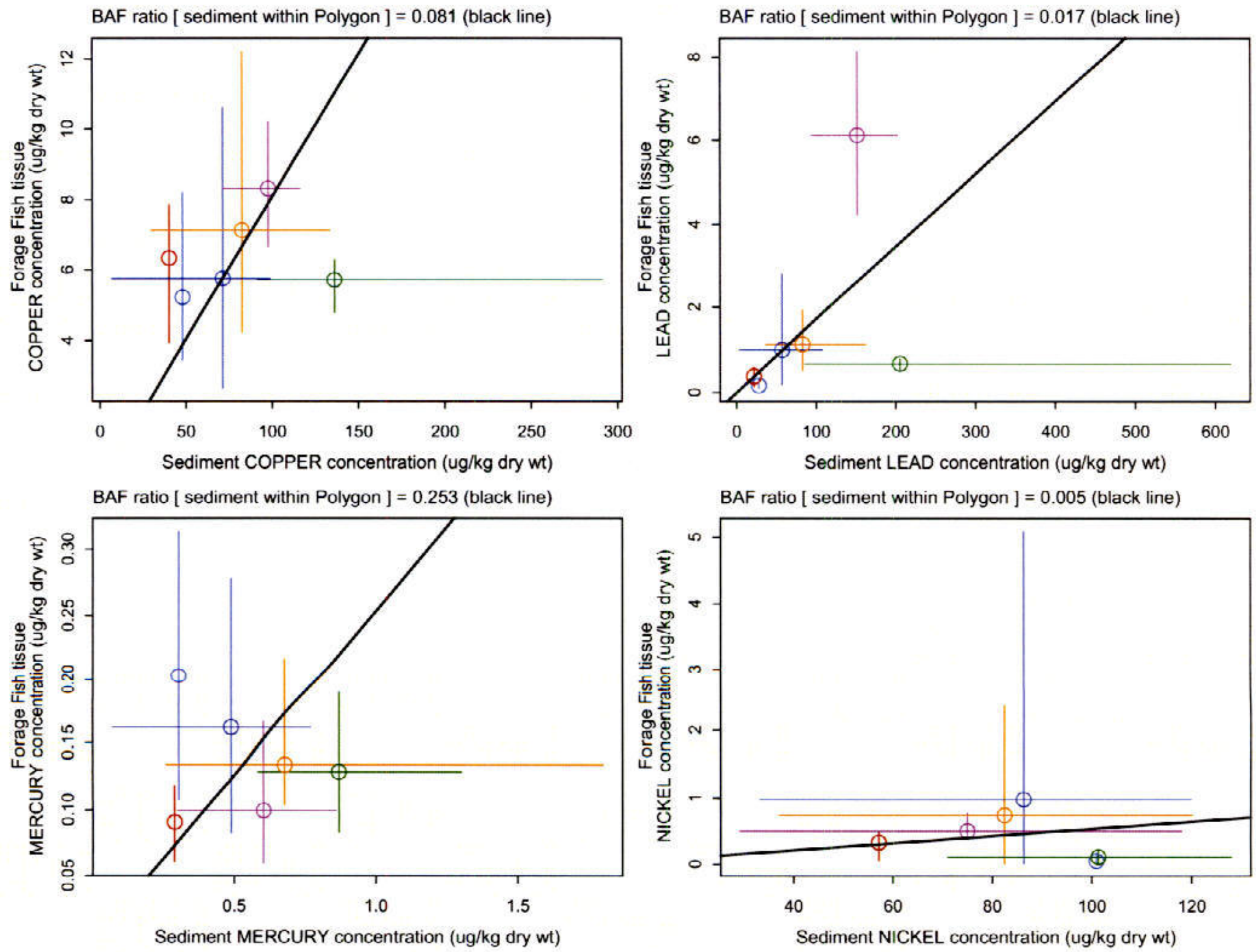


Figure C-10. Forage fish BAFs (tissue in dry wt) for copper, lead, mercury, nickel

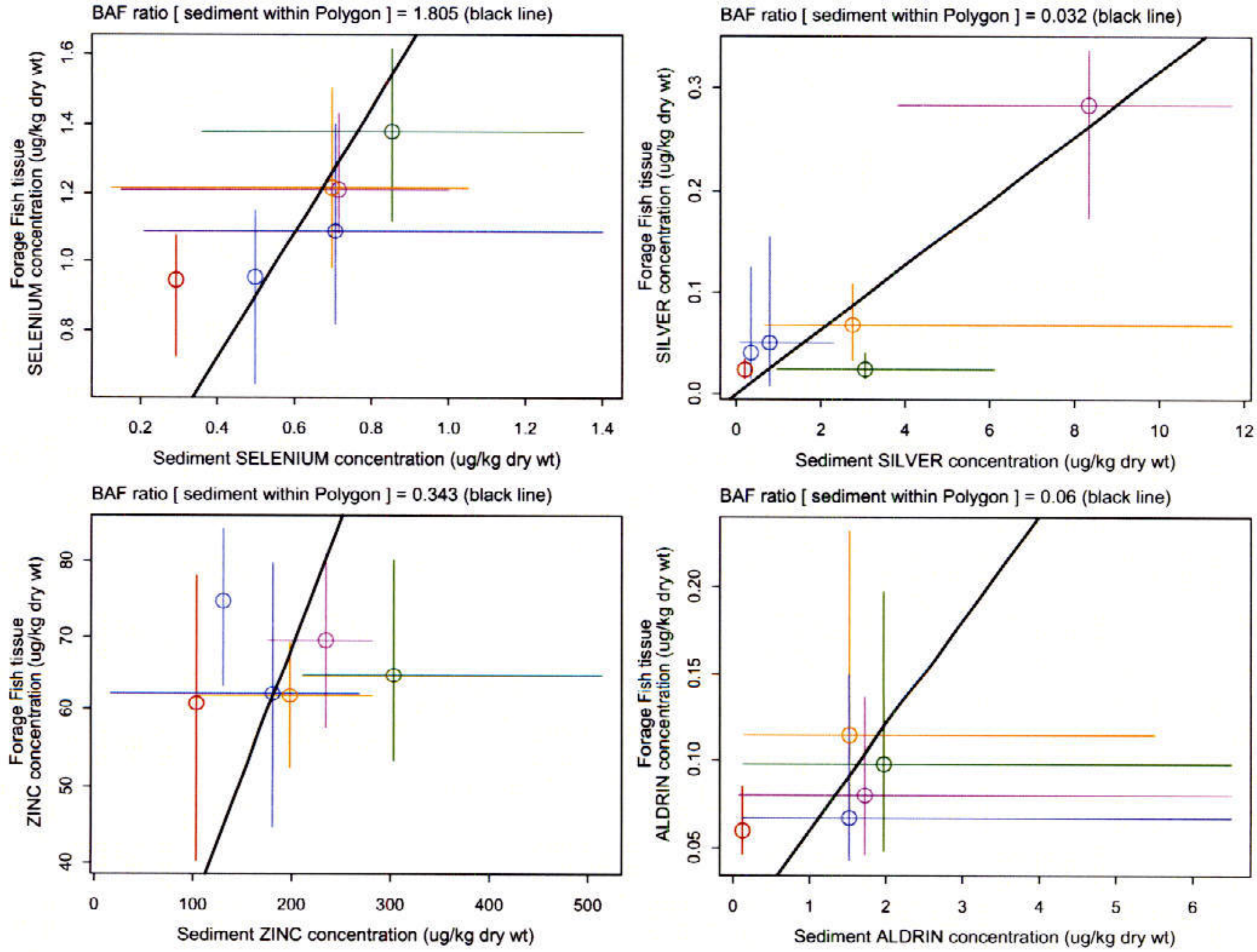


Figure C-11. Forage fish BAFs (tissue in dry wt) for selenium, silver, zinc, aldrin

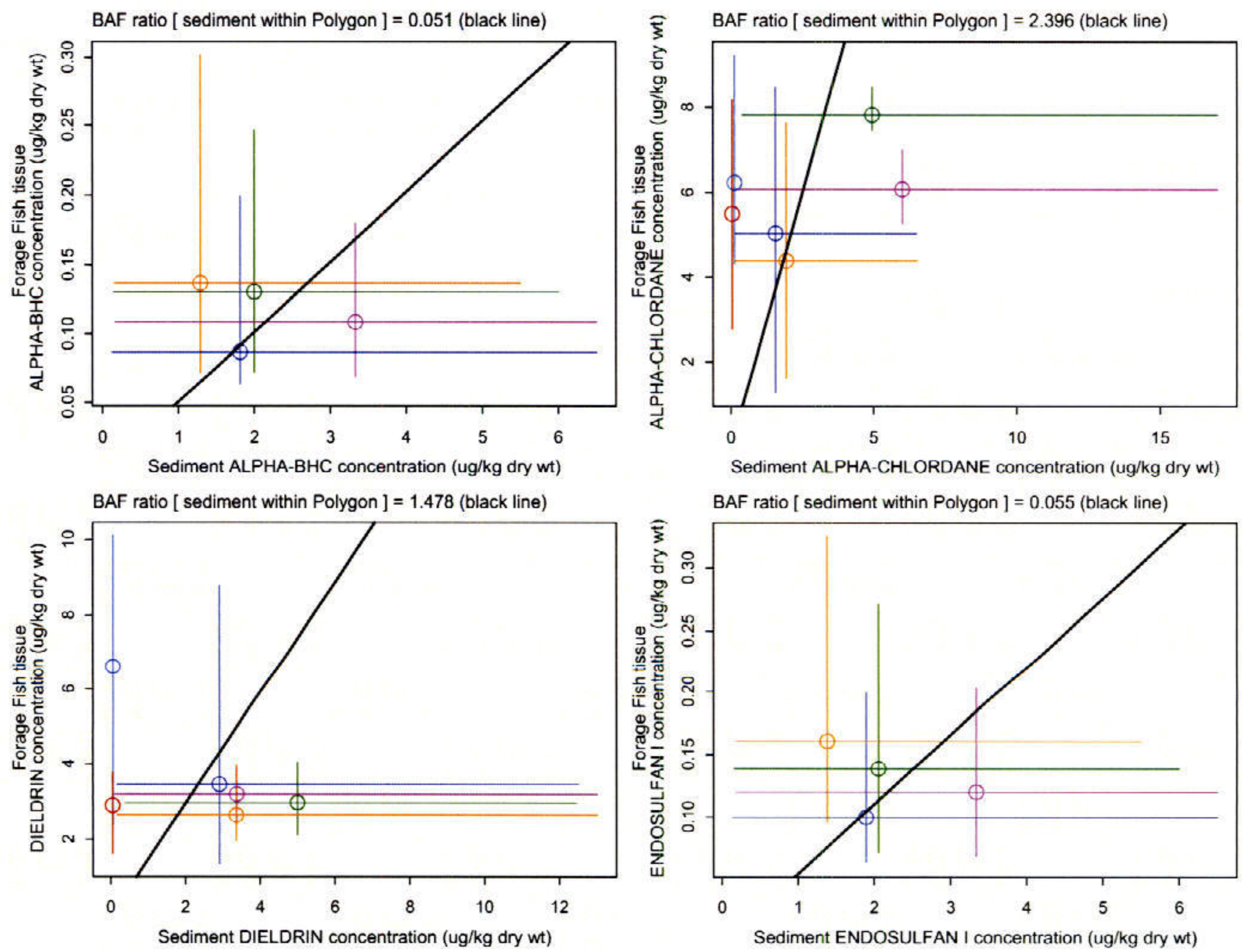


Figure C-12. Forage fish BAFs (tissue in dry wt) for alpha-BHC, alpha-chlordane, dieldrin, endosulfan I

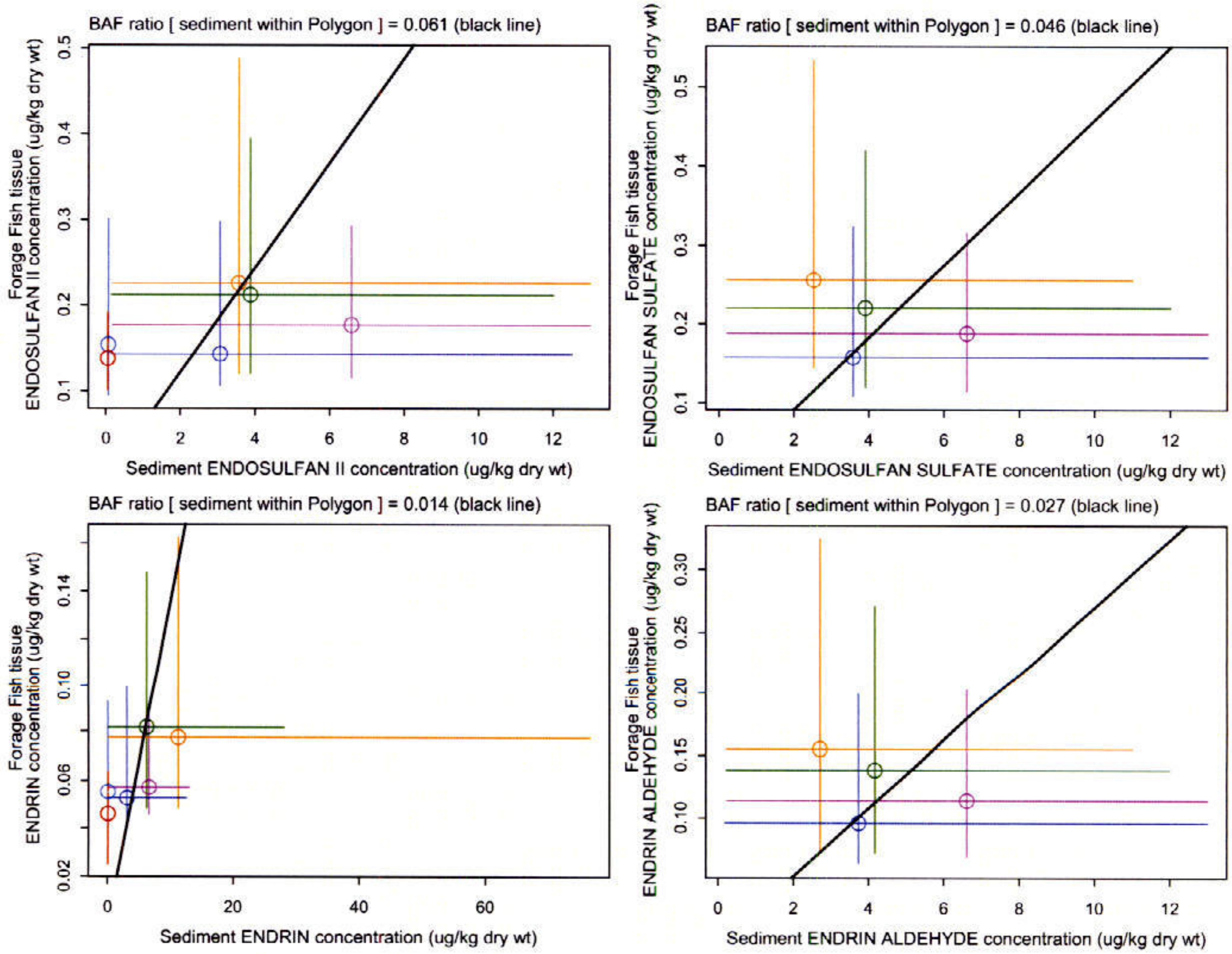


Figure C-13. Forage fish BAFs (tissue in dry wt) for endosulfan II, endosulfan sulfate, endrin, endrin aldehyde

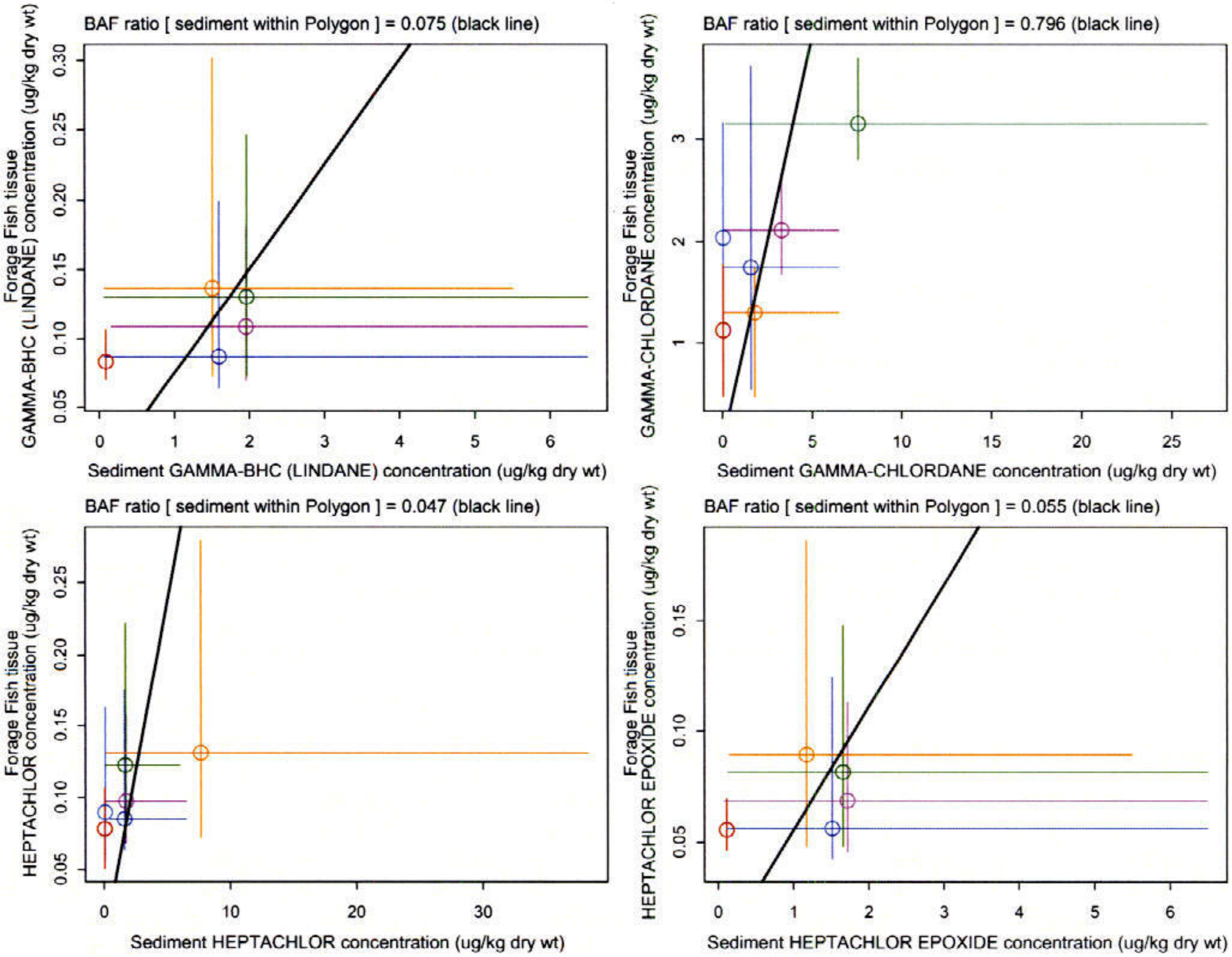


Figure C-14. Forage fish BAFs (tissue in dry wt) for gamma-BHC (Lindane), gamma-chlordane, heptachlor, heptachlor epoxide

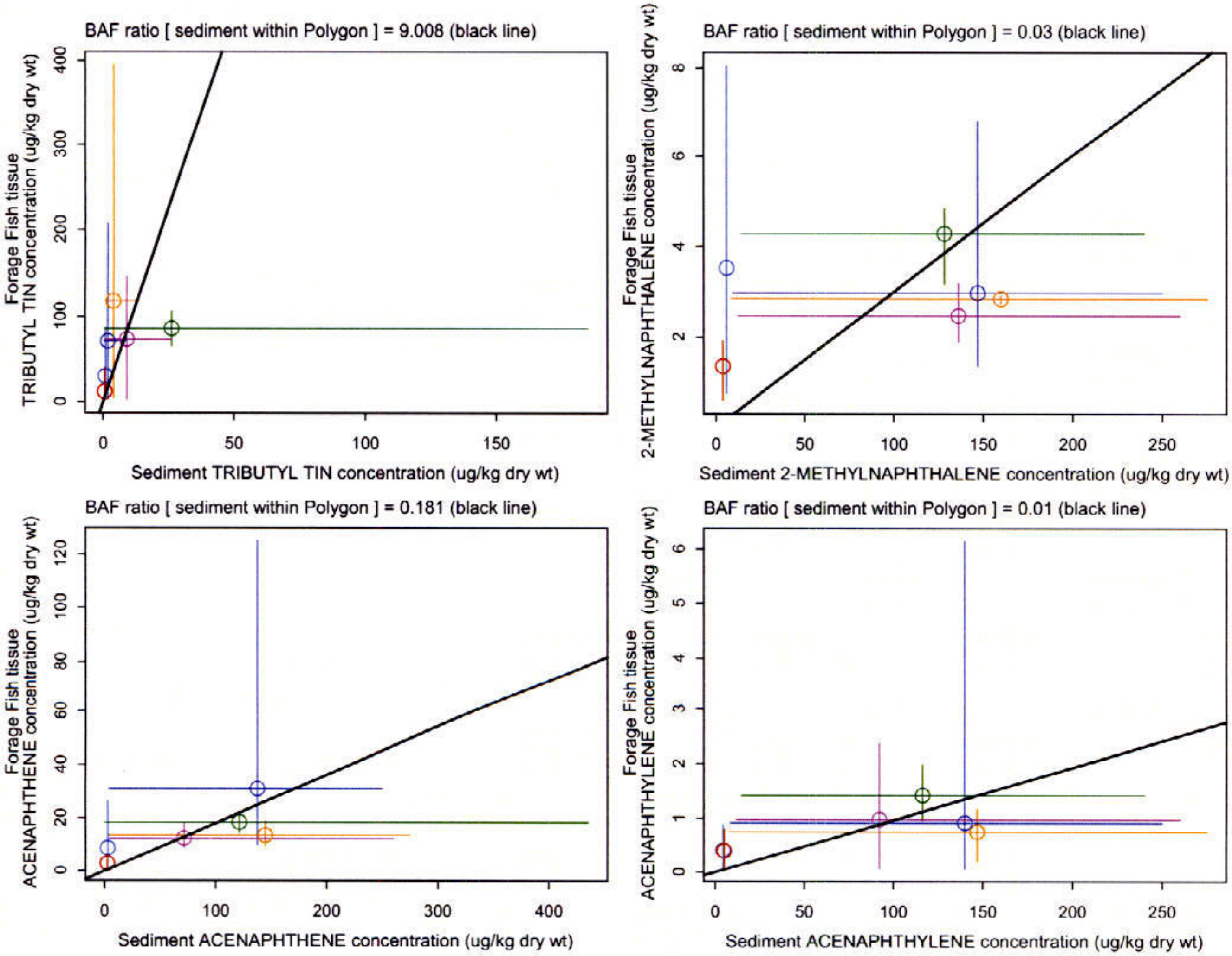


Figure C-15. Forage fish BAFs (tissue in dry wt) for tributyl tin, 2-methylnaphthalene, acenapthene acenapthylene

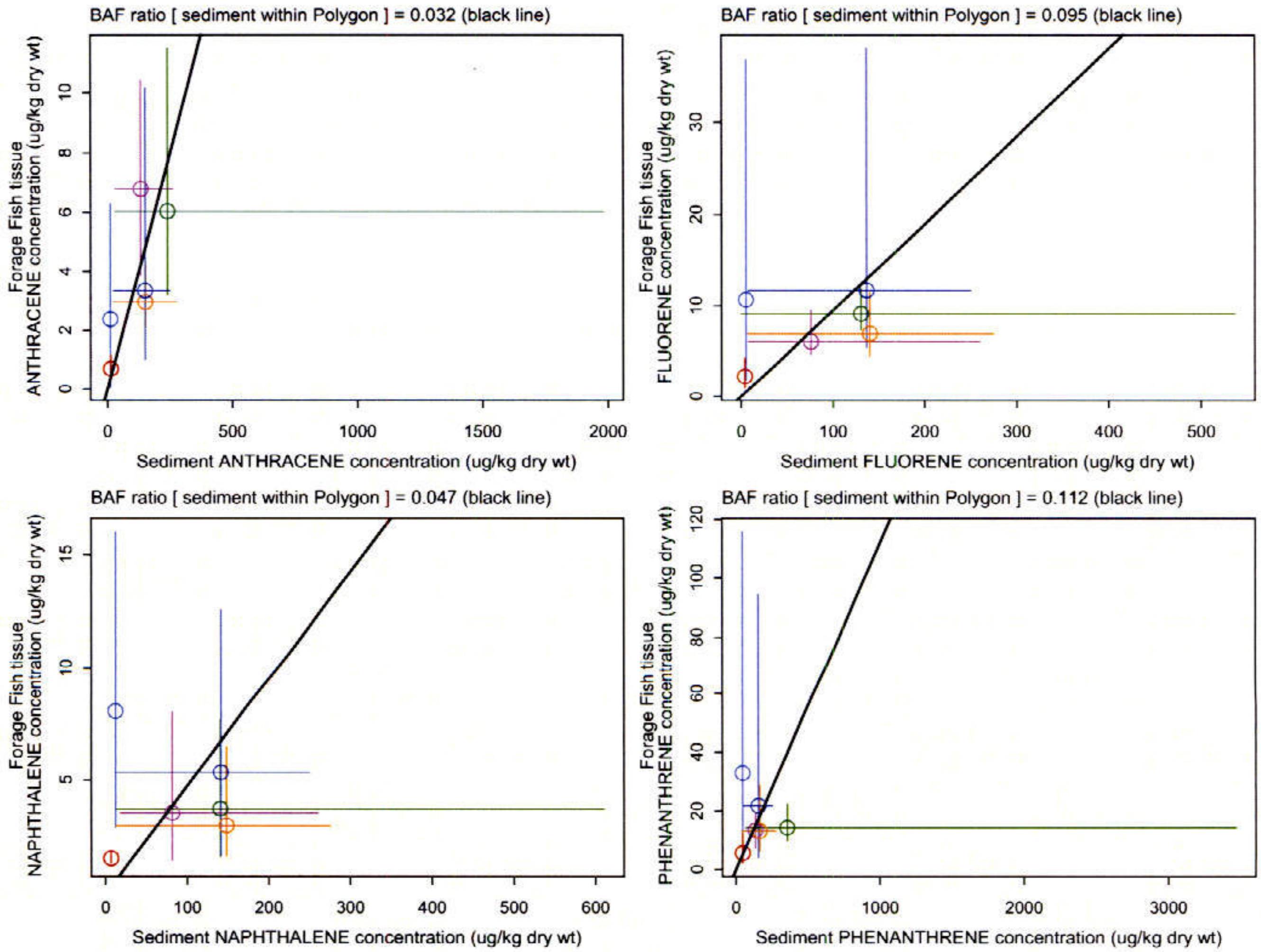


Figure C-16. Forage fish BAFs (tissue in dry wt) for anthracene, fluorene, naphthalene, phenanthrene

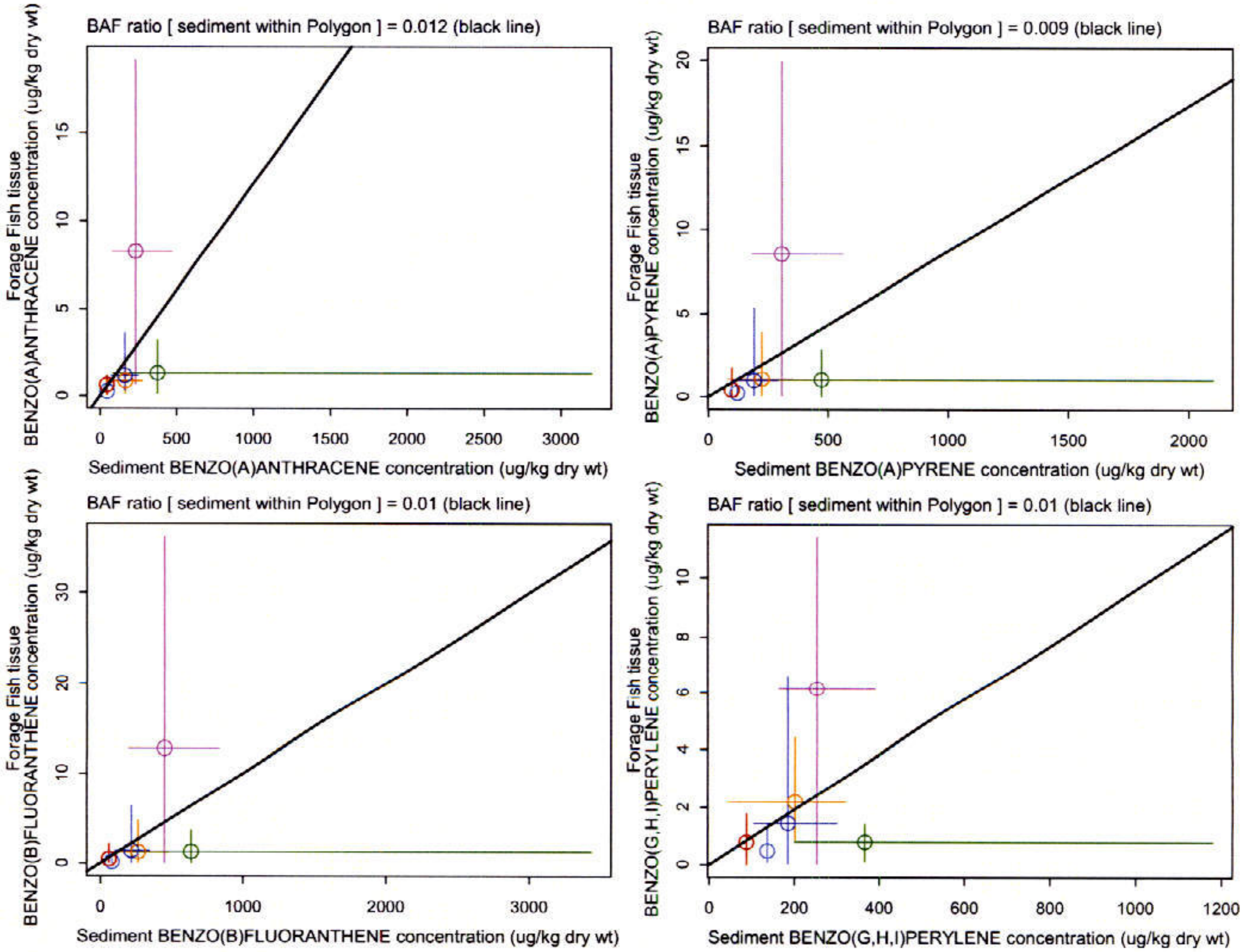


Figure C-17. Forage fish BAFs (tissue in dry wt) for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene

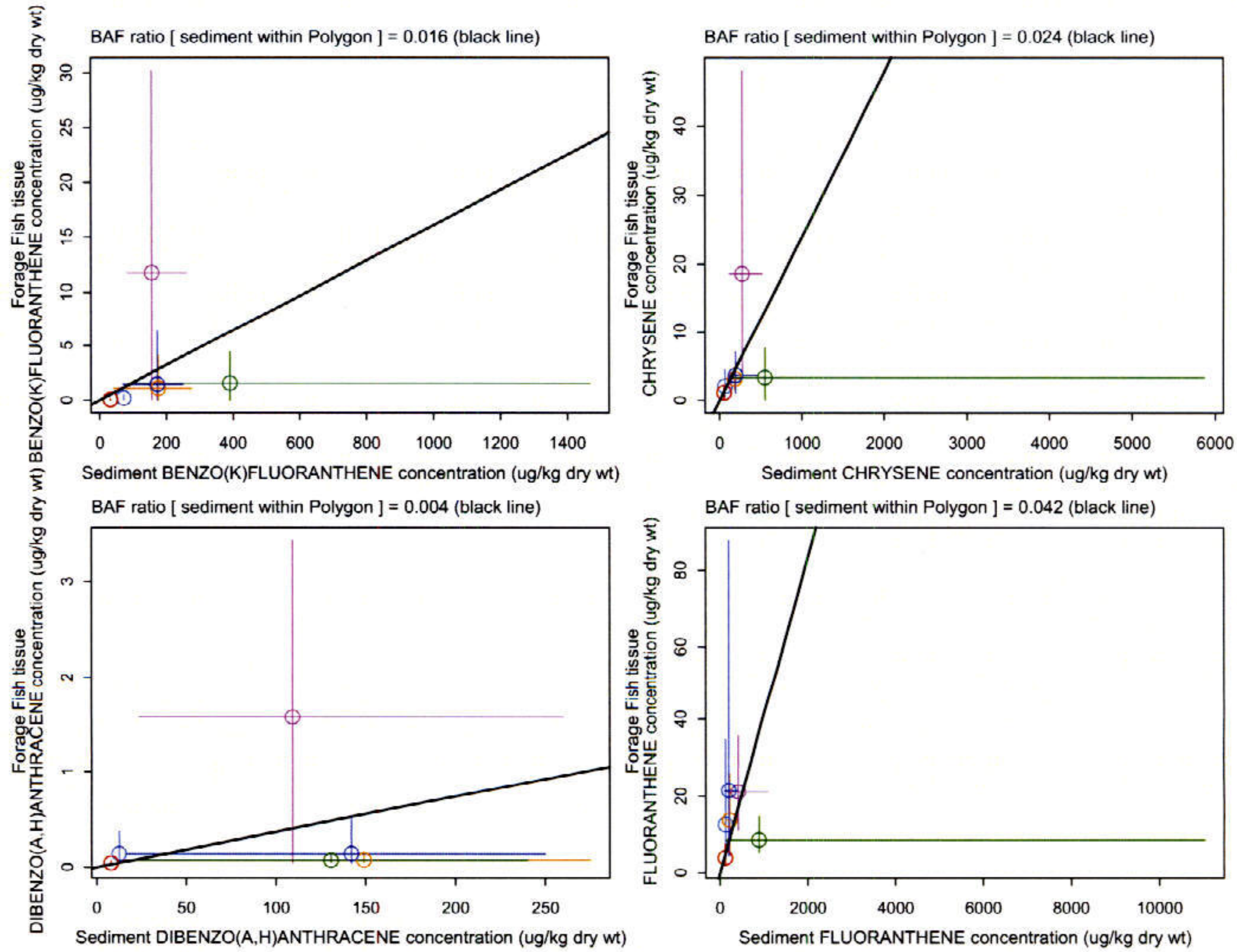


Figure C-18. Forage fish BAFs (tissue in dry wt) for benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene

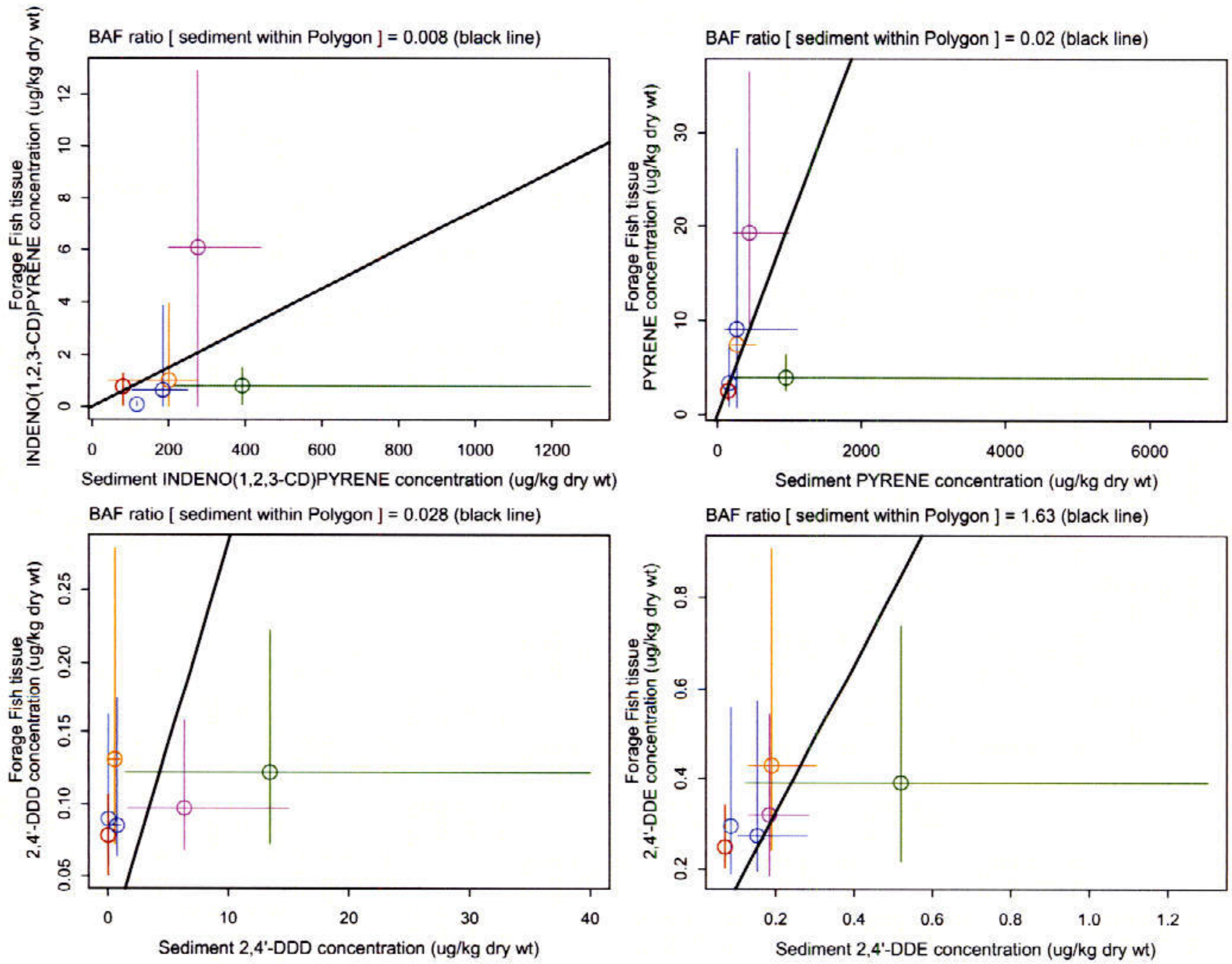


Figure C-19. Forage fish BAFs (tissue in dry wt) for indeno(1,2,3-cd)pyrene, pyrene, 2,4'DDD, 2,4'DDE

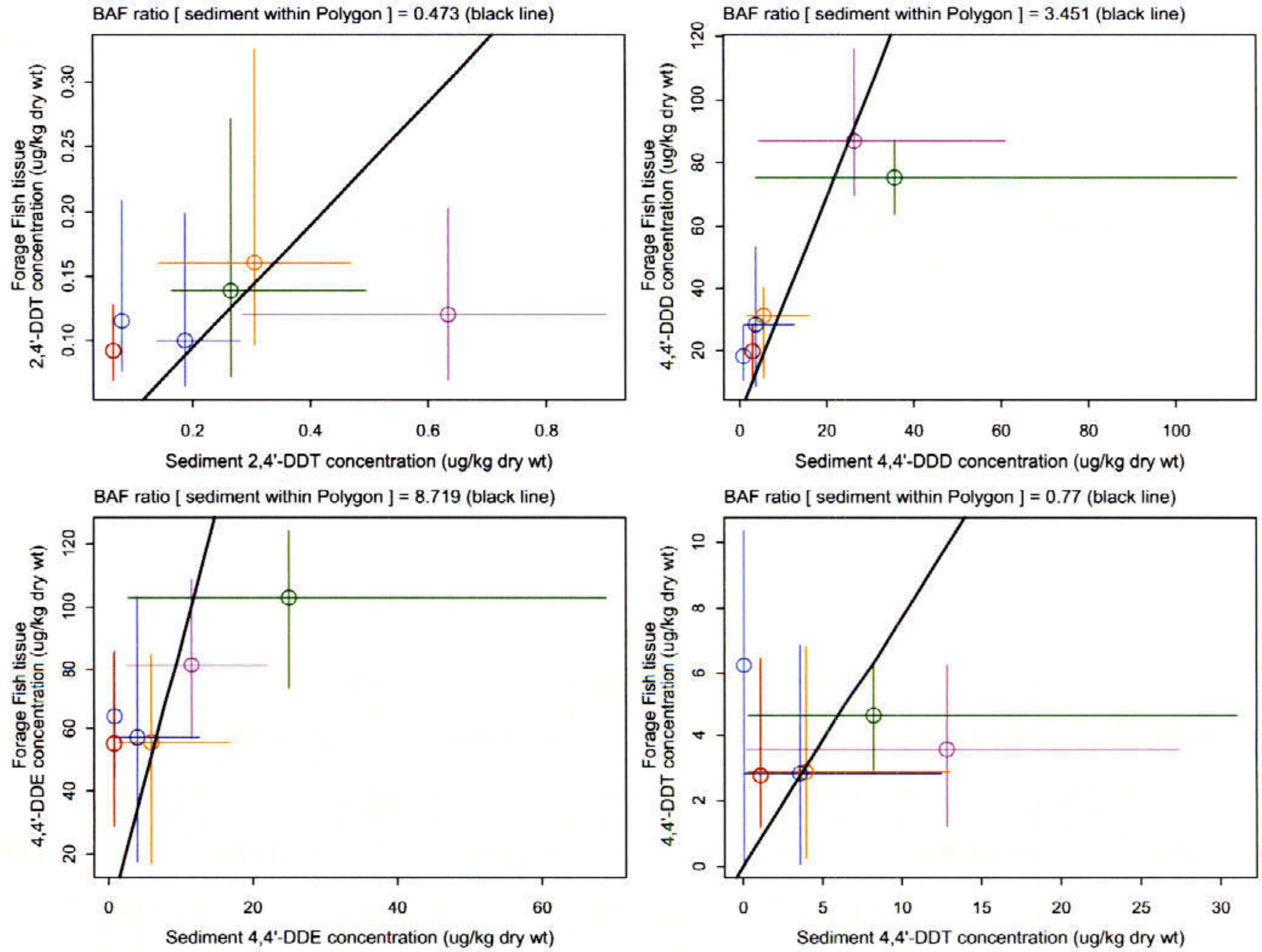


Figure C-20. Forage fish BAFs (tissue in dry wt) for 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT

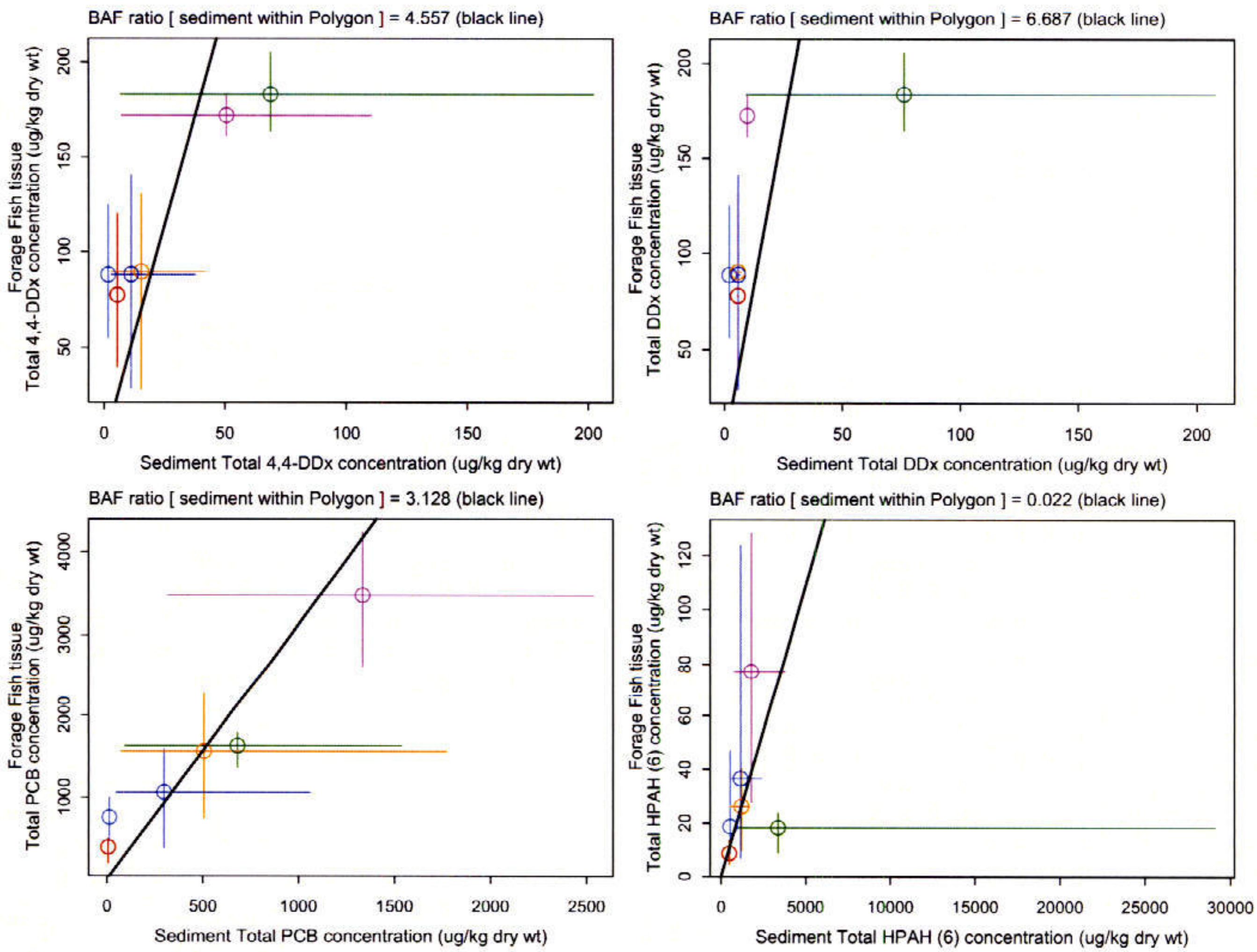


Figure C-21. Forage fish BAFs (tissue in dry wt) for Total 4,4-DDx, Total DDx, Total PCB, Total HPAH (6)

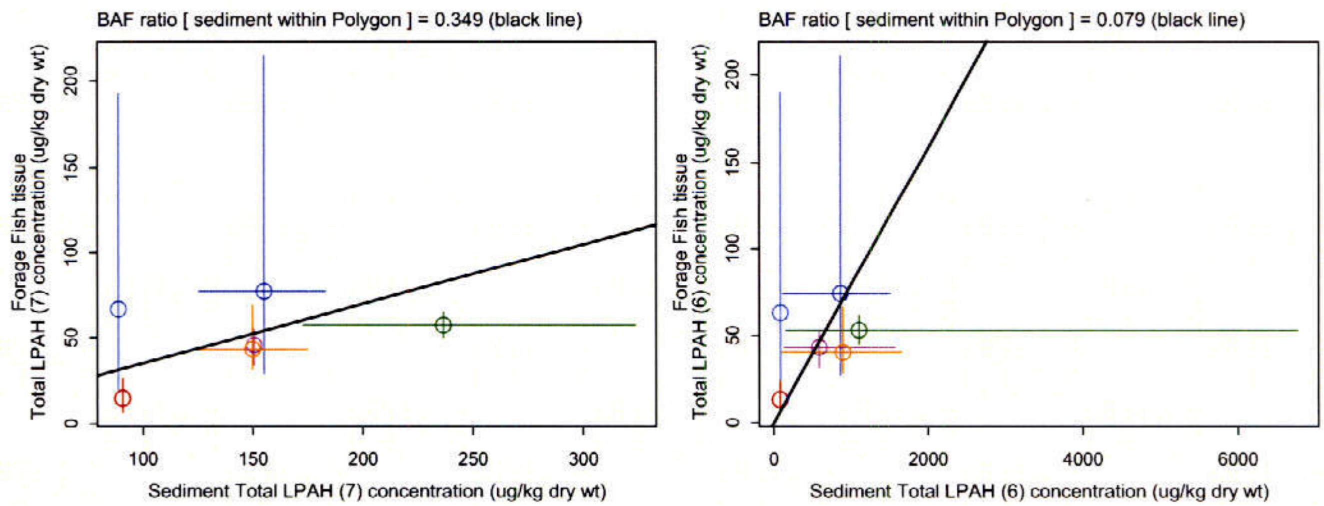


Figure C-22. Forage fish BAFs (tissue in dry wt) for Total LPAH (7), Total LPAH (6)

APPENDIX D

HUMAN HEALTH RISK ASSESSMENT

This appendix contains additional information to support the human health risk assessment. This appendix is organized in the following way:

Table D.1 Calculation of Age-Adjusted Factors

Age-adjusted sediment IR: (EDchild x IRsedchild)/BWchild + (EDadult x IRsedadult)/BWadult

114.28571 mg-yr/kg-day

Age-adjusted fish ingestion rate: (EDchild x IRfishchild)/BWchild + (EDadult x IRfishadult)/BWadult

0.0414286 yr/day

Age-adjusted skin contact rate: (EDchild x AF x SAchild)/BWchild + (EDadult x AF x SAadult)/BWadult

360.8 mg-yr/kg-day

Exposure Parameters	Symbol	Units	RME Adult/Child	Reference
Target Risk	TR	unitless	1.0E-06	U.S. EPA, 1989
Target Hazard Index	THI	unitless	1	U.S. EPA, 1989
Ingestion Rate - Fish	IRfish	kg/day	0.108 / 0.011	SFEI, 2002; U.S. EPA 1997
Ingestion Rate - Sediment	IRsed	mg/day	100 / 200	U.S. EPA, 2004
Fraction Ingested from Contaminated Source	FI	unitless	1	Prof. Judgment
Exposure Frequency - Bivalve	EF	days/year	365	U.S. EPA, 1989
Exposure Frequency - Direct Contact	EF	days/year	26	Prof. Judgment
Skin Surface Area	SA	cm^2/day	5,700 / 2,800	U.S. EPA, 2004
Adherence Factor	AF	mg/cm^2	0.07 / 0.2	U.S. EPA, 2004
Dermal Absorption Factor	DAF	unitless	chemical-specific	U.S. EPA, 2004
Exposure Duration	ED	years	30 / 6	U.S. EPA 1989 & 1991
Body Weight	BW	kg	70 / 15	U.S. EPA, 2004
Averaging Time- cancer	AT_c	days	25,550	U.S. EPA, 2004
Averaging Time - noncancer	AT_{nc}	days	10,950 / 2,190	U.S. EPA, 2004

References

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United States Environmental Protection Agency (U.S. EPA). 1997. *Exposure Factors Handbook.* Office of Research and Development, Washington, DC. EPA/600/P-95/002Fb.

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D.2 Risk Assessment Guidance for Superfund (RAGS), Part D Planning Tables for Western Bayside

Table 0. Site Risk Assessment Identification Information for Western Bayside

Site Name/OU:	Western Bayside, Alameda Point, CA
Region:	9
EPA ID Number:	
State:	CA
Status:	
Federal Facility (Y/N):	Y
EPA Project Manager:	
EPA Risk Assessor:	
Prepared by (Organization):	Battelle
Prepared for (Organization):	Department of the Navy Base Realignment and Closure Program Management Office West
Document Title:	Site Inspection Report Western Bayside/Breakwater Beach
Document Date:	August 2007
Probabilistic Risk Assessment (Y/N):	Y
Comments:	

Table 1. Selection of Exposure Pathways for Western Bayside

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Sediment	Sediment	Western Bayside	Fisher	Adult	Combined (Ingestion and Dermal)	Quant	Exposure to contaminants in sediment during shellfish collection
					Child	Combined (Ingestion and Dermal)	Quant	Exposure to contaminants in sediment during shellfish collection
					Child/Adult	External (Radiation)	Quant	Exposure to contaminants in sediment during shellfish collection
					Child/Adult	Ingestion (Radiation)	Quant	Exposure to contaminants in sediment during shellfish collection
		Fish Tissue	Shellfish from Western Bayside	Fisher	Adult	Ingestion	Quant	Possibility of contaminants in shellfish exposed to sediments in Oakland Inner Harbor
					Child	Ingestion	None	Children are assumed not to ingest shellfish
			Forage fish from Western Bayside	Fisher	Adult	Ingestion	Quant	Possibility of contaminants in forage fish exposed to sediments in Oakland Inner Harbor
					Child	Ingestion	Quant	Possibility of contaminants in forage fish exposed to sediments in Oakland Inner Harbor
	Surface Water	Surface Water	Western Bayside	Recreational User	Adult	Ingestion	None	Water is not a primary exposure medium due to rapid dilution
						Dermal	None	Water is not a primary exposure medium due to rapid dilution
					Child	Ingestion	None	Water is not a primary exposure medium due to rapid dilution
						Dermal	None	Water is not a primary exposure medium due to rapid dilution

Table 2.1. Occurrence, Distribution, and Selection of Chemicals of Potential Concern for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
Western Bayside	7440-22-4	Ag	2.10E-02	1.17E+00	mg/kg dry	WB C-15	50	0.075-0.25	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-38-2	As	[1.15E+00]	1.23E+01	mg/kg dry	B13	95	1.15-1.2	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-43-9	Cd	[2.45E-02]	3.06E-01	mg/kg dry	WB C-14	55	0.0245-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	18540-29-9	Cr	2.39E+01	1.58E+02	mg/kg dry	B02	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-50-8	Cu	4.48E+00	4.77E+01	mg/kg dry	B13	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7439-97-6	Hg	7.50E-03	8.47E-01	mg/kg dry	B11	91	0.015-0.025	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-02-0	Ni	1.84E+01	9.00E+01	mg/kg dry	B13	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-36-0	Sb	[1.50E-02]	3.93E+01	mg/kg dry	B03	39	0.015-0.475	N/A	N/A	N/A	N/A	N/A	Y	D
	7782-49-2	Se	[6.00E-02]	[4.60E-01]	mg/kg dry	[SS001]	7	0.06-0.46	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-66-6	Zn	1.63E+01	1.30E+02	mg/kg dry	B02 ,B03 ,B05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	83-32-9	Acenaphthene	[6.00E-05]	[1.25E-01]	mg/kg dry	[SS001]	53	0.00006-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	208-96-8	Acenaphthylene	1.20E-04	[1.25E-01]	mg/kg dry	[SS001]	55	0.05-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	120-12-7	Anthracene	[1.90E-04]	2.40E-01	mg/kg dry	WB C-17	53	0.00019-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	56-55-3	Benzo(a)anthracene	7.80E-04	3.10E-01	mg/kg dry	WB C-17	60	0.05667-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	50-32-8	Benzo(a)pyrene	1.40E-03	5.30E-01	mg/kg dry	WB C-20	85	0.05833-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	205-99-2	Benzo(b)fluoranthene	1.10E-03	4.30E-01	mg/kg dry	WB C-17	88	0.1-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	191-24-2	Benzo(g,h,i)perylene	1.50E-03	4.00E-01	mg/kg dry	WB C-20	83	0.05833-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	207-08-9	Benzo(k)fluoranthene	8.70E-04	3.40E-01	mg/kg dry	WB C-20	60	0.05667-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	218-01-9	Chrysene	1.00E-03	6.00E-01	mg/kg dry	WB C-17	75	0.05667-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	53-70-3	Dibenz(a,h)anthracene	[6.00E-05]	[1.25E-01]	mg/kg dry	[SS001]	53	0.00006-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	206-44-0	Fluoranthene	1.90E-03	6.10E-01	mg/kg dry	WB C-17	90	0.06333-0.105	N/A	N/A	N/A	N/A	N/A	Y	D
	86-73-7	Fluorene	[5.50E-05]	[1.25E-01]	mg/kg dry	[SS001]	53	0.000055-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	193-39-5	Indeno(1,2,3-cd)pyrene	1.30E-03	4.60E-01	mg/kg dry	WB C-20	73	0.05833-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	91-57-6	2-Methylnaphthalene	1.40E-04	[1.25E-01]	mg/kg dry	[SS001]	55	0.05-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	91-20-3	Naphthalene	3.70E-04	[1.25E-01]	mg/kg dry	[SS001]	55	0.05-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	85-01-8	Phenanthrene	7.30E-04	2.05E-01	mg/kg dry	B14	68	0.05-0.125	N/A	N/A	N/A	N/A	N/A	Y	D
	129-00-0	Pyrene	2.50E-03	4.70E-01	mg/kg dry	WB C-17	95	0.1	N/A	N/A	N/A	N/A	N/A	Y	D
	132-64-9	Dibenzofuran	[7.50E-05]	9.80E-03	mg/kg dry	WB C-17	91	0.000075-0.00008	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDD	[2.00E-05]	2.58E-03	mg/kg dry	WB C-8	19	0.00002-0.00003	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDE	[1.50E-05]	5.70E-04	mg/kg dry	WB C-8	10	0.000015-0.00002	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDT	[2.00E-05]	1.03E-03	mg/kg dry	WB C-20	10	0.00002-0.000035	N/A	N/A	N/A	N/A	N/A	Y	D

Table 2.1. Occurrence, Distribution, and Selection of Chemicals of Potential Concern for Western Bayside, continued

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
	72-54-8	4,4'-DDD	3.30E-04	1.42E-02	mg/kg dry	B04	48	0.001-0.006	N/A	N/A	N/A	N/A	N/A	Y	D
	72-55-9	4,4'-DDE	[1.50E-05]	[6.00E-03]	mg/kg dry	[WB016]	46	0.000015-0.006	N/A	N/A	N/A	N/A	N/A	Y	D
	50-29-3	4,4'-DDT	[1.50E-05]	1.10E-02	mg/kg dry	WB001	42	0.000015-0.006	N/A	N/A	N/A	N/A	N/A	Y	D
	5103-71-9	*alpha*-Chlordane	[1.50E-05]	[3.15E-03]	mg/kg dry	[WB016]	10	0.000015-0.00315	N/A	N/A	N/A	N/A	N/A	Y	D
	319-84-6	*alpha*-BHC	[2.00E-05]	[5.23E-02]	mg/kg dry	[B05]	2	0.00002-0.05233	N/A	N/A	N/A	N/A	N/A	Y	D
	50-67-1	Dieldrin	[1.50E-05]	[1.19E-02]	mg/kg dry	[B05]	6	0.000015-0.01192	N/A	N/A	N/A	N/A	N/A	Y	D
	959-98-8	Endosulfan I	[1.50E-05]	[3.15E-03]	mg/kg dry	[WB016]	0	0.000015-0.00315	N/A	N/A	N/A	N/A	N/A	N	U
	33213-65-9	Endosulfan II	[5.50E-05]	[6.00E-03]	mg/kg dry	[WB016]	2	0.000055-0.006	N/A	N/A	N/A	N/A	N/A	Y	D
	1031-07-8	Endosulfan sulfate	[1.25E-04]	[6.00E-03]	mg/kg dry	[WB016]	0	0.000125-0.006	N/A	N/A	N/A	N/A	N/A	N	U
	72-20-8	Endrin	[1.50E-05]	[1.19E-02]	mg/kg dry	[B05]	0	0.000015-0.01192	N/A	N/A	N/A	N/A	N/A	N	U
	7421-93-4	Endrin aldehyde	[2.50E-05]	[6.34E-02]	mg/kg dry	[B02]	2	0.000025-0.06335	N/A	N/A	N/A	N/A	N/A	Y	D
	58-89-9	*gamma*-BHC	[1.50E-05]	[4.30E-02]	mg/kg dry	[B05]	2	0.000015-0.04302	N/A	N/A	N/A	N/A	N/A	Y	D
	5566-34-7	*gamma*-Chlordane	[1.50E-05]	[3.15E-03]	mg/kg dry	[WB016]	10	0.000015-0.00315	N/A	N/A	N/A	N/A	N/A	Y	D
	76-44-8	Heptachlor	[1.00E-05]	[6.75E-03]	mg/kg dry	[B14]	2	0.00001-0.00675	N/A	N/A	N/A	N/A	N/A	Y	D
	1336-36-3	Total PCBs	2.14E-03	1.45E-01	mg/kg dry	B04	56	0.0805-1.18	N/A	N/A	N/A	N/A	N/A	Y	D
	56-35-9	TBT	[3.50E-05]	1.70E-02	mg/kg dry	B11	65	0.000035-0.0025	N/A	N/A	N/A	N/A	N/A	Y	D
	13982-63-3	Radium-226	[2.50E-02]	2.00E-01	pCi/g	WB C-19	13	0.025-0.15	N/A	N/A	N/A	N/A	N/A	Y	D
	15262-20-1	Radium-228	[1.30E-01]	1.34E+00	pCi/g	WB C-16	25	0.13-0.21	N/A	N/A	N/A	N/A	N/A	Y	D

N/A = not applicable

D = detected in sediment and/or tissue; U = Undetected in both sediment and tissue.

Bracketed values indicate non-detects.

Table 2.2. Occurrence, Distribution, and Selection of Chemicals of Potential Concern for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
Western Bayside	7440-22-4	Ag	[2.70E-02]	[2.95E-02]	mg/kg wet	[B02], [B03], [B13]	0	0.027-0.0295	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-38-2	As	2.17E+00	3.06E+00	mg/kg wet	B13	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-43-9	Cd	[1.35E-02]	[1.48E-02]	mg/kg wet	[B02], [B03], [B13]	0	0.0135-0.01475	N/A	N/A	N/A	N/A	N/A	Y	D
	18540-29-9	Cr	[2.70E-02]	[2.95E-02]	mg/kg wet	[B02], [B03], [B13]	0	0.027-0.0295	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-50-8	Cu	8.81E-01	1.65E+00	mg/kg wet	B11	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7439-97-6	Hg	[5.50E-04]	2.74E-02	mg/kg wet	B02	43	0.00055-0.00059	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-02-0	Ni	[2.75E-02]	7.39E-01	mg/kg wet	B07	43	0.0275-0.0295	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-36-0	Sb	[5.40E-02]	[5.90E-02]	mg/kg wet	[B02], [B03], [B13]	0	0.054-0.059	N/A	N/A	N/A	N/A	N/A	Y	D
	7782-49-2	Se	[1.35E-02]	[1.48E-02]	mg/kg wet	[B02], [B03], [B13]	0	0.0135-0.01475	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-66-6	Zn	8.07E+00	1.29E+01	mg/kg wet	B05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	83-32-9	Acenaphthene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	208-96-8	Acenaphthylene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	120-12-7	Anthracene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	56-55-3	Benzo(a)anthracene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	50-32-8	Benzo(a)pyrene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	205-99-2	Benzo(b)fluoranthene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	191-24-2	Benzo(g,h,i)perylene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	207-08-9	Benzo(k)fluoranthene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	218-01-9	Chrysene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	53-70-3	Dibenz(a,h)anthracene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	206-44-0	Fluoranthene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	86-73-7	Fluorene	[1.75E-02]	[1.76E-02]	mg/kg wet	[B05]	0	0.01748-0.01756	N/A	N/A	N/A	N/A	N/A	Y	D
	193-39-5	Indeno(1,2,3-cd)pyrene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	91-57-6	2-Methylnaphthalene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	91-20-3	Naphthalene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	85-01-8	Phenanthrene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	129-00-0	Pyrene	[3.35E-02]	[3.36E-02]	mg/kg wet	[B11]	0	0.03353-0.03356	N/A	N/A	N/A	N/A	N/A	Y	D
	132-64-9	Dibenzofuran	N/A	N/A	mg/kg wet	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	72-54-8	4,4'-DDD	[9.92E-04]	[1.01E-03]	mg/kg wet	[B03]	0	0.000992-0.001014	N/A	N/A	N/A	N/A	N/A	Y	D
	72-55-9	4,4'-DDE	[9.93E-04]	1.22E-03	mg/kg wet	B13	29	0.000993-0.001014	N/A	N/A	N/A	N/A	N/A	Y	D
	50-29-3	4,4'-DDT	[9.92E-04]	[1.01E-03]	mg/kg wet	[B03]	0	0.000992-0.001014	N/A	N/A	N/A	N/A	N/A	Y	D

Table 2.2. Occurrence, Distribution, and Selection of Chemicals of Potential Concern for Western Bayside, continued

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
	5103-71-9	*alpha*-Chlordane	[2.48E-04]	[2.51E-04]	mg/kg wet	[B03]	0	0.000248-0.0002511	N/A	N/A	N/A	N/A	N/A	Y	D
	319-84-6	*alpha*-BHC	[2.48E-04]	[2.51E-04]	mg/kg wet	[B03]	0	0.000248-0.0002511	N/A	N/A	N/A	N/A	N/A	Y	D
	50-67-1	Dieldrin	[4.99E-04]	[5.00E-04]	mg/kg wet	[B07]	0	0.0004985-0.0005004	N/A	N/A	N/A	N/A	N/A	Y	D
	959-98-8	Endosulfan I	[4.99E-04]	[5.00E-04]	mg/kg wet	[B07]	0	0.0004985-0.0005004	N/A	N/A	N/A	N/A	N/A	N	U
	33213-65-9	Endosulfan II	[4.99E-04]	[5.00E-04]	mg/kg wet	[B07]	0	0.0004985-0.0005004	N/A	N/A	N/A	N/A	N/A	Y	D
	1031-07-8	Endosulfan sulfate	[4.99E-04]	[5.00E-04]	mg/kg wet	[B07]	0	0.0004985-0.0005004	N/A	N/A	N/A	N/A	N/A	N	U
	72-20-8	Endrin	[4.99E-04]	[5.00E-04]	mg/kg wet	[B07]	0	0.0004985-0.0005004	N/A	N/A	N/A	N/A	N/A	N	U
	7421-93-4	Endrin aldehyde	[9.92E-04]	[1.01E-03]	mg/kg wet	[B03]	0	0.000992-0.001014	N/A	N/A	N/A	N/A	N/A	Y	D
	58-89-9	*gamma*-BHC	[2.48E-04]	[2.51E-04]	mg/kg wet	[B03]	0	0.000248-0.0002511	N/A	N/A	N/A	N/A	N/A	Y	D
	5566-34-7	*gamma*-Chlordane	[2.48E-04]	[2.51E-04]	mg/kg wet	[B03]	0	0.000248-0.0002511	N/A	N/A	N/A	N/A	N/A	Y	D
	76-44-8	Heptachlor	[2.48E-04]	[2.51E-04]	mg/kg wet	[B03]	0	0.000248-0.0002511	N/A	N/A	N/A	N/A	N/A	Y	D
	1336-36-3	Total PCBs	N/A	N/A	mg/kg wet	N/A	0	0.07936-0.08064	N/A	N/A	N/A	N/A	N/A	Y	D
	56-35-9	TBT	[2.75E-04]	[3.24E-03]	mg/kg wet	[B13]	0	0.000275-0.003235	N/A	N/A	N/A	N/A	N/A	Y	D

N/A = not applicable

D = detected in sediment and/or tissue; U = Undetected in both sediment and tissue.

Bracketed values indicate non-detects.

Table 3.1.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Western Bayside	Ag	mg/kg dry	1.73E-01	2.07E-01	1.17E+00	2.07E-01	mg/kg dry	NP	(1)
	As	mg/kg dry	4.88E+00	5.77E+00	1.23E+01	5.77E+00	mg/kg dry	LN	(2)
	Cd	mg/kg dry	1.19E-01	1.38E-01	3.06E-01	1.38E-01	mg/kg dry	NP	(1)
	Cr	mg/kg dry	6.58E+01	7.55E+01	1.58E+02	7.55E+01	mg/kg dry	NP	(1)
	Cu	mg/kg dry	2.04E+01	2.52E+01	4.77E+01	2.52E+01	mg/kg dry	LN	(2)
	Hg	mg/kg dry	1.77E-01	2.12E-01	8.47E-01	2.12E-01	mg/kg dry	NP	(1)
	Ni	mg/kg dry	4.12E+01	4.58E+01	9.00E+01	4.58E+01	mg/kg dry	NP	(1)
	Sb	mg/kg dry	7.00E+00	9.78E+00	3.93E+01	9.78E+00	mg/kg dry	NP	(1)
	Se	mg/kg dry	1.94E-01	2.22E-01	[4.60E-01]	2.22E-01	mg/kg dry	NP	(1)
	Zn	mg/kg dry	6.04E+01	7.12E+01	1.30E+02	7.12E+01	mg/kg dry	LN	(2)
	Acenaphthene	mg/kg dry	3.98E-02	<3.70E-02>	[1.25E-01]	<3.70E-02>	mg/kg dry	NP	(1)
	Acenaphthylene	mg/kg dry	3.79E-02	<1.70E-02>	[1.25E-01]	<1.70E-02>	mg/kg dry	NP	(1)
	Anthracene	mg/kg dry	4.93E-02	6.09E-02	2.40E-01	6.09E-02	mg/kg dry	NP	(1)
	Benzo(a)anthracene	mg/kg dry	7.85E-02	9.41E-02	3.10E-01	9.41E-02	mg/kg dry	NP	(1)
	Benzo(a)pyrene	mg/kg dry	1.41E-01	1.71E-01	5.30E-01	1.71E-01	mg/kg dry	NP	(1)
	Benzo(b)fluoranthene	mg/kg dry	1.36E-01	1.63E-01	4.30E-01	1.63E-01	mg/kg dry	NP	(1)
	Benzo(g,h,i)perylene	mg/kg dry	1.16E-01	1.38E-01	4.00E-01	1.38E-01	mg/kg dry	NP	(1)
	Benzo(k)fluoranthene	mg/kg dry	9.14E-02	1.12E-01	3.40E-01	1.12E-01	mg/kg dry	NP	(1)

Table 3.1.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	Chrysene	mg/kg dry	1.10E-01	1.34E-01	6.00E-01	1.34E-01	mg/kg dry	NP	(1)
	Dibenz(a,h)anthracene	mg/kg dry	4.53E-02	5.53E-02	[1.25E-01]	5.53E-02	mg/kg dry	NP	(1)
	Fluoranthene	mg/kg dry	1.40E-01	1.69E-01	6.10E-01	1.69E-01	mg/kg dry	NP	(1)
	Fluorene	mg/kg dry	2.90E-02	<3.20E-02>	[1.25E-01]	<3.20E-02>	mg/kg dry	NP	(1)
	Indeno(1,2,3-cd)pyrene	mg/kg dry	1.14E-01	1.38E-01	4.60E-01	1.38E-01	mg/kg dry	NP	(1)
	2-Methylnaphthalene	mg/kg dry	3.68E-02	<7.80E-03>	[1.25E-01]	<7.80E-03>	mg/kg dry	NP	(1)
	Naphthalene	mg/kg dry	3.86E-02	<2.20E-02>	[1.25E-01]	<2.20E-02>	mg/kg dry	NP	(1)
	Phenanthrene	mg/kg dry	6.25E-02	7.29E-02	2.05E-01	7.29E-02	mg/kg dry	NP	(1)
	Pyrene	mg/kg dry	1.65E-01	1.95E-01	4.70E-01	1.95E-01	mg/kg dry	NP	(1)
	Dibenzofuran	mg/kg dry	2.15E-03	5.32E-03	9.80E-03	5.32E-03	mg/kg dry	LN	(2)
	2,4'-DDD	mg/kg dry	2.11E-04	3.64E-04	2.58E-03	3.64E-04	mg/kg dry	NP	(1)
	2,4'-DDE	mg/kg dry	6.24E-05	9.94E-05	5.70E-04	9.94E-05	mg/kg dry	NP	(1)
	2,4'-DDT	mg/kg dry	9.02E-05	1.50E-04	1.03E-03	1.50E-04	mg/kg dry	NP	(1)
	4,4'-DDD	mg/kg dry	2.22E-03	2.84E-03	1.42E-02	2.84E-03	mg/kg dry	LN	(2)
	4,4'-DDE	mg/kg dry	1.91E-03	2.23E-03	6.00E-03	2.23E-03	mg/kg dry	NP	(1)
	4,4'-DDT	mg/kg dry	2.15E-03	2.56E-03	1.10E-02	2.56E-03	mg/kg dry	NP	(1)
	alpha-Chlordane	mg/kg dry	6.72E-04	8.54E-04	[3.15E-03]	8.54E-04	mg/kg dry	NP	(1)
	alpha-BHC	mg/kg dry	1.90E-03	<4.00E-04>	[5.23E-02]	<4.00E-04>	mg/kg dry	NP	(1)
	Dieldrin	mg/kg dry	1.64E-03	<1.13E-03>	[1.19E-02]	<1.13E-03>	mg/kg dry	NP	(1)
	Endosulfan II	mg/kg dry	1.18E-03	<4.30E-04>	[6.00E-03]	<4.30E-04>	mg/kg dry	NP	(1)
	Endrin aldehyde	mg/kg dry	3.47E-03	<1.49E-03>	[6.34E-02]	<1.49E-03>	mg/kg dry	NP	(1)
	gamma-BHC	mg/kg dry	1.89E-03	<4.90E-04>	[4.30E-02]	<4.90E-04>	mg/kg dry	NP	(1)
	gamma-Chlordane	mg/kg dry	6.51E-04	8.27E-04	[3.15E-03]	8.27E-04	mg/kg dry	NP	(1)

Table 3.1.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	Heptachlor	mg/kg dry	1.07E-03	<2.20E-04>	[6.75E-03]	<2.20E-04>	mg/kg dry	NP	(1)
	Total PCBs	mg/kg dry	1.41E-02	1.86E-02	1.45E-01	1.86E-02	mg/kg dry	LN	(2)
	TBT	mg/kg dry	2.91E-03	3.82E-03	1.70E-02	3.82E-03	mg/kg dry	NP	(1)
	Radium-226	pCi/g	9.63E-02	1.35E-01	2.00E-01	1.35E-01	pCi/g	N	(3)
	Radium-228	pCi/g	3.68E-01	5.69E-01	1.34E+00	5.69E-01	pCi/g	NP	(1)

For non-detects, 1/2 sample detection limit was used as a proxy concentration. For Total PCBs, zero was used for summing non-detects.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)

Statistic: 95% UCL of Normal Data (95% UCL - N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Rationale: (1) Shapiro-Wilk W-test indicates nonparametric distribution of data.
(2) Shapiro-Wilk W-test indicates data are log-normally distributed.
(3) Shapiro-Wilk W-test indicates normal distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
Shellfish in Western Bayside	Ag	mg/kg wet	>2.86E-02<	>2.94E-02<	[2.95E-02]	5.87E-03	mg/kg wet	N	(1)
	As	mg/kg wet	2.75E+00	2.97E+00	3.06E+00	2.97E+00	mg/kg wet	N	(1)
	Cd	mg/kg wet	>1.43E-02<	>1.47E-02<	[1.48E-02]	2.67E-03	mg/kg wet	N	(1)
	Cr	mg/kg wet	>2.86E-02<	>2.94E-02<	[2.95E-02]	2.37E+00	mg/kg wet	N	(1)
	Cu	mg/kg wet	1.13E+00	1.33E+00	1.65E+00	1.33E+00	mg/kg wet	N	(1)
	Hg	mg/kg wet	9.78E-03	1.68E-02	2.74E-02	1.68E-02	mg/kg wet	NP	(2)
	Ni	mg/kg wet	2.82E-01	4.70E-01	7.39E-01	4.70E-01	mg/kg wet	NP	(2)
	Sb	mg/kg wet	>5.71E-02<	>5.87E-02<	[5.90E-02]	3.10E-01	mg/kg wet	N	(1)
	Se	mg/kg wet	>1.43E-02<	>1.47E-02<	[1.48E-02]	1.37E-01	mg/kg wet	N	(1)
	Zn	mg/kg wet	1.10E+01	1.23E+01	1.29E+01	1.23E+01	mg/kg wet	N	(1)
	Acenaphthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.21E-03	mg/kg wet	N	(1)
	Acenaphthylene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.82E-03	mg/kg wet	N	(1)
	Anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	4.61E-03	mg/kg wet	N	(1)
	Benzo(a)anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.19E-02	mg/kg wet	N	(1)
	Benzo(a)pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.96E-02	mg/kg wet	N	(1)
	Benzo(b)fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.07E-02	mg/kg wet	N	(1)
	Benzo(g,h,i)perylene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	5.83E-03	mg/kg wet	N	(1)
	Benzo(k)fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.20E-02	mg/kg wet	N	(1)

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	Chrysene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.34E-02	mg/kg wet	N	(1)
	Dibenz(a,h)anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.61E-03	mg/kg wet	N	(1)
	Fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	3.90E-02	mg/kg wet	N	(1)
	Fluorene	mg/kg wet	>1.75E-02<	>1.75E-02<	[1.76E-02]	1.46E-03	mg/kg wet	N	(1)
	Indeno(1,2,3-cd)pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	4.25E-03	mg/kg wet	N	(1)
	2-Methylnaphthalene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	>3.36E-02<	mg/kg wet	N	(1)
	Naphthalene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	7.05E-03	mg/kg wet	N	(1)
	Phenanthrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.22E-03	mg/kg wet	N	(1)
	Pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	6.52E-02	mg/kg wet	N	(1)
	Dibenzofuran	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDD	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDE	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDT	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	4,4′-DDD	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	6.39E-04	mg/kg wet	NP	(2)
	4,4′-DDE	mg/kg wet	1.06E-03	1.12E-03	1.22E-03	1.12E-03	mg/kg wet	NP	(2)
	4,4′-DDT	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	1.19E-03	mg/kg wet	NP	(2)
	alpha-Chlordane	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	8.93E-05	mg/kg wet	N	(1)
	alpha-BHC	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	>2.50E-04<	mg/kg wet	N	(1)
	Dieldrin	mg/kg wet	>5.00E-04<	>5.00E-04<	[5.00E-04]	1.22E-03	mg/kg wet	N	(1)
	Endosulfan II	mg/kg wet	>5.00E-04<	>5.00E-04<	[5.00E-04]	>5.00E-04<	mg/kg wet	N	(1)
	Endrin aldehyde	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	>1.00E-03<	mg/kg wet	NP	(2)
	gamma-BHC	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	>2.50E-04<	mg/kg wet	N	(1)
	gamma-Chlordane	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	7.66E-04	mg/kg wet	N	(1)

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	Heptachlor	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	1.39E-04	mg/kg wet	N	(1)
	Total PCBs	mg/kg wet	N/A	N/A	N/A	4.24E-03	mg/kg wet	N	(1)
	TBT	mg/kg wet	>1.48E-03<	>2.36E-03<	[3.24E-03]	>2.36E-03<	mg/kg wet	NP	(2)

N/A = not applicable

(a) Shellfish tissue concentrations for non-detected chemicals were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Nonparametric (NP); Normal (N)

Statistic: 95% UCL of Normal Data (95% UCL - N); 95% UCL of Nonparametric Data (95% UCL - NP);

Rationale: (1) Shapiro-Wilk W Test indicates data are normally distributed.
(2) Shapiro-Wilk W-test indicates nonparametric distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "><" indicate an estimate based solely on nondetects.

Table 3.3.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside

Scenario Timeframe: Current/Future

Medium: Sediment

Exposure Medium: Forage Fish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
Forage fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	9.33E-04	mg/kg wet	N/A	N/A
	As	N/A	N/A	N/A	N/A	1.72E-01	mg/kg wet	N/A	N/A
	Cd	N/A	N/A	N/A	N/A	5.39E-04	mg/kg wet	N/A	N/A
	Cr	N/A	N/A	N/A	N/A	1.96E-01	mg/kg wet	N/A	N/A
	Cu	N/A	N/A	N/A	N/A	3.65E-01	mg/kg wet	N/A	N/A
	Hg	N/A	N/A	N/A	N/A	9.43E-03	mg/kg wet	N/A	N/A
	Ni	N/A	N/A	N/A	N/A	5.04E-02	mg/kg wet	N/A	N/A
	Sb	N/A	N/A	N/A	N/A	9.78E-03	mg/kg wet	N/A	N/A
	Se	N/A	N/A	N/A	N/A	7.65E-02	mg/kg wet	N/A	N/A
	Zn	N/A	N/A	N/A	N/A	4.59E+00	mg/kg wet	N/A	N/A
	Acenaphthene	N/A	N/A	N/A	N/A	9.81E-04	mg/kg wet	N/A	N/A
	Acenaphthylene	N/A	N/A	N/A	N/A	2.38E-05	mg/kg wet	N/A	N/A
	Anthracene	N/A	N/A	N/A	N/A	2.92E-04	mg/kg wet	N/A	N/A
	Benzo(a)anthracene	N/A	N/A	N/A	N/A	1.79E-04	mg/kg wet	N/A	N/A
	Benzo(a)pyrene	N/A	N/A	N/A	N/A	2.40E-04	mg/kg wet	N/A	N/A
	Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	2.45E-04	mg/kg wet	N/A	N/A
	Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	2.34E-04	mg/kg wet	N/A	N/A
	Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	2.90E-04	mg/kg wet	N/A	N/A

Table 3.3.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
	Chrysene	N/A	N/A	N/A	N/A	5.23E-04	mg/kg wet	N/A	N/A
	Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	3.32E-05	mg/kg wet	N/A	N/A
	Fluoranthene	N/A	N/A	N/A	N/A	1.16E-03	mg/kg wet	N/A	N/A
	Fluorene	N/A	N/A	N/A	N/A	4.64E-04	mg/kg wet	N/A	N/A
	Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	1.80E-04	mg/kg wet	N/A	N/A
	2-Methylnaphthalene	N/A	N/A	N/A	N/A	3.43E-05	mg/kg wet	N/A	N/A
	Naphthalene	N/A	N/A	N/A	N/A	1.61E-04	mg/kg wet	N/A	N/A
	Phenanthrene	N/A	N/A	N/A	N/A	1.37E-03	mg/kg wet	N/A	N/A
	Pyrene	N/A	N/A	N/A	N/A	6.64E-04	mg/kg wet	N/A	N/A
	Dibenzofuran	N/A	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4'-DDD	N/A	N/A	N/A	N/A	1.49E-06	mg/kg wet	N/A	N/A
	2,4'-DDE	N/A	N/A	N/A	N/A	2.58E-05	mg/kg wet	N/A	N/A
	2,4'-DDT	N/A	N/A	N/A	N/A	1.04E-05	mg/kg wet	N/A	N/A
	4,4'-DDD	N/A	N/A	N/A	N/A	1.46E-03	mg/kg wet	N/A	N/A
	4,4'-DDE	N/A	N/A	N/A	N/A	2.83E-03	mg/kg wet	N/A	N/A
	4,4'-DDT	N/A	N/A	N/A	N/A	3.09E-04	mg/kg wet	N/A	N/A
	alpha-Chlordane	N/A	N/A	N/A	N/A	3.02E-04	mg/kg wet	N/A	N/A
	alpha-BHC	N/A	N/A	N/A	N/A	4.36E-06	mg/kg wet	N/A	N/A
	Dieldrin	N/A	N/A	N/A	N/A	2.59E-04	mg/kg wet	N/A	N/A
	Endosulfan II	N/A	N/A	N/A	N/A	3.91E-06	mg/kg wet	N/A	N/A
	Endrin aldehyde	N/A	N/A	N/A	N/A	8.64E-06	mg/kg wet	N/A	N/A
	gamma-BHC	N/A	N/A	N/A	N/A	6.32E-06	mg/kg wet	N/A	N/A

Table 3.3.CT. Exposure Point Concentration Summary Central Tendency for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
	gamma-Chlordane	N/A	N/A	N/A	N/A	9.78E-05	mg/kg wet	N/A	N/A
	Heptachlor	N/A	N/A	N/A	N/A	1.01E-06	mg/kg wet	N/A	N/A
	Total PCBs	N/A	N/A	N/A	N/A	1.26E-02	mg/kg wet	N/A	N/A
	TBT	N/A	N/A	N/A	N/A	4.80E-03	mg/kg wet	N/A	N/A

N/A = not applicable

(a) No forage fish tissue samples were collected from Western Bayside during this study.

(b) Forage fish tissue concentrations were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

Table 3.1.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Western Bayside	Ag	mg/kg dry	1.73E-01	2.07E-01	1.17E+00	2.07E-01	mg/kg dry	NP	(1)
	As	mg/kg dry	4.88E+00	5.77E+00	1.23E+01	5.77E+00	mg/kg dry	LN	(2)
	Cd	mg/kg dry	1.19E-01	1.38E-01	3.06E-01	1.38E-01	mg/kg dry	NP	(1)
	Cr	mg/kg dry	6.58E+01	7.55E+01	1.58E+02	7.55E+01	mg/kg dry	NP	(1)
	Cu	mg/kg dry	2.04E+01	2.52E+01	4.77E+01	2.52E+01	mg/kg dry	LN	(2)
	Hg	mg/kg dry	1.77E-01	2.12E-01	8.47E-01	2.12E-01	mg/kg dry	NP	(1)
	Ni	mg/kg dry	4.12E+01	4.58E+01	9.00E+01	4.58E+01	mg/kg dry	NP	(1)
	Sb	mg/kg dry	7.00E+00	9.78E+00	3.93E+01	9.78E+00	mg/kg dry	NP	(1)
	Se	mg/kg dry	1.94E-01	2.22E-01	[4.60E-01]	2.22E-01	mg/kg dry	NP	(1)
	Zn	mg/kg dry	6.04E+01	7.12E+01	1.30E+02	7.12E+01	mg/kg dry	LN	(2)
	Acenaphthene	mg/kg dry	3.98E-02	<3.70E-02>	[1.25E-01]	<3.70E-02>	mg/kg dry	NP	(1)
	Acenaphthylene	mg/kg dry	3.79E-02	<1.70E-02>	[1.25E-01]	<1.70E-02>	mg/kg dry	NP	(1)
	Anthracene	mg/kg dry	4.93E-02	6.09E-02	2.40E-01	6.09E-02	mg/kg dry	NP	(1)
	Benzo(a)anthracene	mg/kg dry	7.85E-02	9.41E-02	3.10E-01	9.41E-02	mg/kg dry	NP	(1)
	Benzo(a)pyrene	mg/kg dry	1.41E-01	1.71E-01	5.30E-01	1.71E-01	mg/kg dry	NP	(1)
	Benzo(b)fluoranthene	mg/kg dry	1.36E-01	1.63E-01	4.30E-01	1.63E-01	mg/kg dry	NP	(1)
	Benzo(g,h,i)perylene	mg/kg dry	1.16E-01	1.38E-01	4.00E-01	1.38E-01	mg/kg dry	NP	(1)

Table 3.1.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	Benzo(k)fluoranthene	mg/kg dry	9.14E-02	1.12E-01	3.40E-01	1.12E-01	mg/kg dry	NP	(1)
	Chrysene	mg/kg dry	1.10E-01	1.34E-01	6.00E-01	1.34E-01	mg/kg dry	NP	(1)
	Dibenz(a,h)anthracene	mg/kg dry	4.53E-02	5.53E-02	[1.25E-01]	5.53E-02	mg/kg dry	NP	(1)
	Fluoranthene	mg/kg dry	1.40E-01	1.69E-01	6.10E-01	1.69E-01	mg/kg dry	NP	(1)
	Fluorene	mg/kg dry	2.90E-02	<3.20E-02>	[1.25E-01]	<3.20E-02>	mg/kg dry	NP	(1)
	Indeno(1,2,3-cd)pyrene	mg/kg dry	1.14E-01	1.38E-01	4.60E-01	1.38E-01	mg/kg dry	NP	(1)
	2-Methylnaphthalene	mg/kg dry	3.68E-02	<7.80E-03>	[1.25E-01]	<7.80E-03>	mg/kg dry	NP	(1)
	Naphthalene	mg/kg dry	3.86E-02	<2.20E-02>	[1.25E-01]	<2.20E-02>	mg/kg dry	NP	(1)
	Phenanthrene	mg/kg dry	6.25E-02	7.29E-02	2.05E-01	7.29E-02	mg/kg dry	NP	(1)
	Pyrene	mg/kg dry	1.65E-01	1.95E-01	4.70E-01	1.95E-01	mg/kg dry	NP	(1)
	Dibenzofuran	mg/kg dry	2.15E-03	5.32E-03	9.80E-03	5.32E-03	mg/kg dry	LN	(2)
	2,4'-DDD	mg/kg dry	2.11E-04	3.64E-04	2.58E-03	3.64E-04	mg/kg dry	NP	(1)
	2,4'-DDE	mg/kg dry	6.24E-05	9.94E-05	5.70E-04	9.94E-05	mg/kg dry	NP	(1)
	2,4'-DDT	mg/kg dry	9.02E-05	1.50E-04	1.03E-03	1.50E-04	mg/kg dry	NP	(1)
	4,4'-DDD	mg/kg dry	2.22E-03	2.84E-03	1.42E-02	2.84E-03	mg/kg dry	LN	(2)
	4,4'-DDE	mg/kg dry	1.91E-03	2.23E-03	6.00E-03	2.23E-03	mg/kg dry	NP	(1)
	4,4'-DDT	mg/kg dry	2.15E-03	2.56E-03	1.10E-02	2.56E-03	mg/kg dry	NP	(1)
	alpha-Chlordane	mg/kg dry	6.72E-04	8.54E-04	[3.15E-03]	8.54E-04	mg/kg dry	NP	(1)
	alpha-BHC	mg/kg dry	1.90E-03	<4.00E-04>	[5.23E-02]	<4.00E-04>	mg/kg dry	NP	(1)
	Dieldrin	mg/kg dry	1.64E-03	<1.13E-03>	[1.19E-02]	<1.13E-03>	mg/kg dry	NP	(1)
	Endosulfan II	mg/kg dry	1.18E-03	<4.30E-04>	[6.00E-03]	<4.30E-04>	mg/kg dry	NP	(1)
	Endrin aldehyde	mg/kg dry	3.47E-03	<1.49E-03>	[6.34E-02]	<1.49E-03>	mg/kg dry	NP	(1)
	gamma-BHC	mg/kg dry	1.89E-03	<4.90E-04>	[4.30E-02]	<4.90E-04>	mg/kg dry	NP	(1)

Table 3.1.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	gamma-Chlordane	mg/kg dry	6.51E-04	8.27E-04	[3.15E-03]	8.27E-04	mg/kg dry	NP	(1)
	Heptachlor	mg/kg dry	1.07E-03	<2.20E-04>	[6.75E-03]	<2.20E-04>	mg/kg dry	NP	(1)
	Total PCBs	mg/kg dry	1.41E-02	1.86E-02	1.45E-01	1.86E-02	mg/kg dry	LN	(2)
	TBT	mg/kg dry	2.91E-03	3.82E-03	1.70E-02	3.82E-03	mg/kg dry	NP	(1)
	Radium-226	pCi/g	9.63E-02	1.35E-01	2.00E-01	1.35E-01	pCi/g	N	(3)
	Radium-228	pCi/g	3.68E-01	5.69E-01	1.34E+00	5.69E-01	pCi/g	NP	(1)

For non-detects, 1/2 sample detection limit was used as a proxy concentration. For Total PCBs, zero was used for summing non-detects.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)

Statistic: 95% UCL of Normal Data (95% UCL - N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Rationale: (1) Shapiro-Wilk W-test indicates nonparametric distribution of data.

(2) Shapiro-Wilk W-test indicates data are log-normally distributed.

(3) Shapiro-Wilk W-test indicates normal distribution of data.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
Shellfish in Western Bayside	Ag	mg/kg wet	>2.86E-02<	>2.94E-02<	[2.95E-02]	5.87E-03	mg/kg wet	N	(1)
	As	mg/kg wet	2.75E+00	2.97E+00	3.06E+00	2.97E+00	mg/kg wet	N	(1)
	Cd	mg/kg wet	>1.43E-02<	>1.47E-02<	[1.48E-02]	2.67E-03	mg/kg wet	N	(1)
	Cr	mg/kg wet	>2.86E-02<	>2.94E-02<	[2.95E-02]	2.37E+00	mg/kg wet	N	(1)
	Cu	mg/kg wet	1.13E+00	1.33E+00	1.65E+00	1.33E+00	mg/kg wet	N	(1)
	Hg	mg/kg wet	9.78E-03	1.68E-02	2.74E-02	1.68E-02	mg/kg wet	NP	(2)
	Ni	mg/kg wet	2.82E-01	4.70E-01	7.39E-01	4.70E-01	mg/kg wet	NP	(2)
	Sb	mg/kg wet	>5.71E-02<	>5.87E-02<	[5.90E-02]	3.10E-01	mg/kg wet	N	(1)
	Se	mg/kg wet	>1.43E-02<	>1.47E-02<	[1.48E-02]	1.37E-01	mg/kg wet	N	(1)
	Zn	mg/kg wet	1.10E+01	1.23E+01	1.29E+01	1.23E+01	mg/kg wet	N	(1)
	Acenaphthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.21E-03	mg/kg wet	N	(1)
	Acenaphthylene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.82E-03	mg/kg wet	N	(1)
	Anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	4.61E-03	mg/kg wet	N	(1)
	Benzo(a)anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.19E-02	mg/kg wet	N	(1)
	Benzo(a)pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.96E-02	mg/kg wet	N	(1)
	Benzo(b)fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.07E-02	mg/kg wet	N	(1)
	Benzo(g,h,i)perylene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	5.83E-03	mg/kg wet	N	(1)
	Benzo(k)fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.20E-02	mg/kg wet	N	(1)

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	Chrysene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.34E-02	mg/kg wet	N	(1)
	Dibenz(a,h)anthracene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	1.61E-03	mg/kg wet	N	(1)
	Fluoranthene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	3.90E-02	mg/kg wet	N	(1)
	Fluorene	mg/kg wet	>1.75E-02<	>1.75E-02<	[1.76E-02]	1.46E-03	mg/kg wet	N	(1)
	Indeno(1,2,3-cd)pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	4.25E-03	mg/kg wet	N	(1)
	2-Methylnaphthalene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	>3.36E-02<	mg/kg wet	N	(1)
	Naphthalene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	7.05E-03	mg/kg wet	N	(1)
	Phenanthrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	2.22E-03	mg/kg wet	N	(1)
	Pyrene	mg/kg wet	>3.35E-02<	>3.36E-02<	[3.36E-02]	6.52E-02	mg/kg wet	N	(1)
	Dibenzofuran	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDD	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDE	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4′-DDT	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	4,4′-DDD	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	6.39E-04	mg/kg wet	NP	(2)
	4,4′-DDE	mg/kg wet	1.06E-03	1.12E-03	1.22E-03	1.12E-03	mg/kg wet	NP	(2)
	4,4′-DDT	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	1.19E-03	mg/kg wet	NP	(2)
	alpha-Chlordane	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	8.93E-05	mg/kg wet	N	(1)
	alpha-BHC	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	>2.50E-04<	mg/kg wet	N	(1)
	Dieldrin	mg/kg wet	>5.00E-04<	>5.00E-04<	[5.00E-04]	1.22E-03	mg/kg wet	N	(1)
	Endosulfan II	mg/kg wet	>5.00E-04<	>5.00E-04<	[5.00E-04]	>5.00E-04<	mg/kg wet	N	(1)
	Endrin aldehyde	mg/kg wet	>9.99E-04<	>1.00E-03<	[1.01E-03]	>1.00E-03<	mg/kg wet	NP	(2)
	gamma-BHC	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	>2.50E-04<	mg/kg wet	N	(1)

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	gamma-Chlordane	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	7.66E-04	mg/kg wet	N	(1)
	Heptachlor	mg/kg wet	>2.49E-04<	>2.50E-04<	[2.51E-04]	1.39E-04	mg/kg wet	N	(1)
	Total PCBs	mg/kg wet	N/A	N/A	N/A	4.24E-03	mg/kg wet	N	(1)
	TBT	mg/kg wet	>1.48E-03<	>2.36E-03<	[3.24E-03]	>2.36E-03<	mg/kg wet	NP	(2)

N/A = not applicable

(a) Shellfish tissue concentrations for non-detected chemicals were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Nonparametric (NP); Normal (N)

Statistic: Maximum Detected Value (Max); Maximum Detection Limit (Max DL); 95% UCL of Normal Data (95% UCL - N)

Rationale: (1) Shapiro-Wilk W Test indicates data are normally distributed.

(2) Shapiro-Wilk W-test indicates nonparametric distribution of data.

Values enclosed in "><" indicate an estimate based solely on nondetects.

Table 3.3.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Forage Fish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
Forage fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	9.33E-04	mg/kg wet	N/A	N/A
	As	N/A	N/A	N/A	N/A	1.72E-01	mg/kg wet	N/A	N/A
	Cd	N/A	N/A	N/A	N/A	5.39E-04	mg/kg wet	N/A	N/A
	Cr	N/A	N/A	N/A	N/A	1.96E-01	mg/kg wet	N/A	N/A
	Cu	N/A	N/A	N/A	N/A	3.65E-01	mg/kg wet	N/A	N/A
	Hg	N/A	N/A	N/A	N/A	9.43E-03	mg/kg wet	N/A	N/A
	Ni	N/A	N/A	N/A	N/A	5.04E-02	mg/kg wet	N/A	N/A
	Sb	N/A	N/A	N/A	N/A	9.78E-03	mg/kg wet	N/A	N/A
	Se	N/A	N/A	N/A	N/A	7.65E-02	mg/kg wet	N/A	N/A
	Zn	N/A	N/A	N/A	N/A	4.59E+00	mg/kg wet	N/A	N/A
	Acenaphthene	N/A	N/A	N/A	N/A	9.81E-04	mg/kg wet	N/A	N/A
	Acenaphthylene	N/A	N/A	N/A	N/A	2.38E-05	mg/kg wet	N/A	N/A
	Anthracene	N/A	N/A	N/A	N/A	2.92E-04	mg/kg wet	N/A	N/A
	Benzo(a)anthracene	N/A	N/A	N/A	N/A	1.79E-04	mg/kg wet	N/A	N/A
	Benzo(a)pyrene	N/A	N/A	N/A	N/A	2.40E-04	mg/kg wet	N/A	N/A
	Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	2.45E-04	mg/kg wet	N/A	N/A
	Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	2.34E-04	mg/kg wet	N/A	N/A

Table 3.3.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration Value (b)	Exposure Point Concentration Units	Exposure Point Concentration Statistic	Exposure Point Concentration Rationale
	Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	2.90E-04	mg/kg wet	N/A	N/A
	Chrysene	N/A	N/A	N/A	N/A	5.23E-04	mg/kg wet	N/A	N/A
	Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	3.32E-05	mg/kg wet	N/A	N/A
	Fluoranthene	N/A	N/A	N/A	N/A	1.16E-03	mg/kg wet	N/A	N/A
	Fluorene	N/A	N/A	N/A	N/A	4.64E-04	mg/kg wet	N/A	N/A
	Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	1.80E-04	mg/kg wet	N/A	N/A
	2-Methylnaphthalene	N/A	N/A	N/A	N/A	3.43E-05	mg/kg wet	N/A	N/A
	Naphthalene	N/A	N/A	N/A	N/A	1.61E-04	mg/kg wet	N/A	N/A
	Phenanthrene	N/A	N/A	N/A	N/A	1.37E-03	mg/kg wet	N/A	N/A
	Pyrene	N/A	N/A	N/A	N/A	6.64E-04	mg/kg wet	N/A	N/A
	Dibenzofuran	N/A	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	2,4'-DDD	N/A	N/A	N/A	N/A	1.49E-06	mg/kg wet	N/A	N/A
	2,4'-DDE	N/A	N/A	N/A	N/A	2.58E-05	mg/kg wet	N/A	N/A
	2,4'-DDT	N/A	N/A	N/A	N/A	1.04E-05	mg/kg wet	N/A	N/A
	4,4'-DDD	N/A	N/A	N/A	N/A	1.46E-03	mg/kg wet	N/A	N/A
	4,4'-DDE	N/A	N/A	N/A	N/A	2.83E-03	mg/kg wet	N/A	N/A
	4,4'-DDT	N/A	N/A	N/A	N/A	3.09E-04	mg/kg wet	N/A	N/A
	alpha-Chlordane	N/A	N/A	N/A	N/A	3.02E-04	mg/kg wet	N/A	N/A
	alpha-BHC	N/A	N/A	N/A	N/A	4.36E-06	mg/kg wet	N/A	N/A
	Dieldrin	N/A	N/A	N/A	N/A	2.59E-04	mg/kg wet	N/A	N/A
	Endosulfan II	N/A	N/A	N/A	N/A	3.91E-06	mg/kg wet	N/A	N/A
	Endrin aldehyde	N/A	N/A	N/A	N/A	8.64E-06	mg/kg wet	N/A	N/A

Table 3.3.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Western Bayside, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
	gamma-BHC	N/A	N/A	N/A	N/A	6.32E-06	mg/kg wet	N/A	N/A
	gamma-Chlordane	N/A	N/A	N/A	N/A	9.78E-05	mg/kg wet	N/A	N/A
	Heptachlor	N/A	N/A	N/A	N/A	1.01E-06	mg/kg wet	N/A	N/A
	Total PCBs	N/A	N/A	N/A	N/A	1.26E-02	mg/kg wet	N/A	N/A
	TBT	N/A	N/A	N/A	N/A	4.80E-03	mg/kg wet	N/A	N/A

N/A = not applicable

(a) No forage fish tissue samples were collected from Western Bayside during this study.

(b) Forage fish tissue concentrations were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

Table 4.1.CT. Values Used for Daily Intake Calculations for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Combined (Ingestion & Dermal)	Fisher	Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	50	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	5,700	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.07	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	See Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	13	days/year	(1)	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
		Child	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	100	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	2,800	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.2	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	13	days/year	(1)	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	
External (Radiation)	Fisher	Child/Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (pCi/g per year) = Csed x ED x GS x ET
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				GS	*gamma* Shielding Factor	0.4	N/A	U.S. EPA, 2000a, 2000b	
				ET	Exposure Time Percentage	1.20%	N/A	(1)	

Table 4.1.CT. Values Used for Daily Intake Calculations for Western Bayside, continued

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion (Radiation)	Fisher	Child/Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (pCi) = Csed x IRsed X FI x EF x ED
				IRsed	Ingestion Rate of Sediment	50	mg/day	U.S. EPA, 2004	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	13	days/year	(1)	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	

(1) Professional Judgement.

Sources:

DTSC, 1994: *Preliminary Endangerment Assessment Guidance Manual.* State of California Environmental Protection Agency. January.

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume I. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

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U.S. EPA, 2000b: Soil Screening Guidance for Radionuclides: User's Guide. Prepared by the Office of Emergency and Remedial Response. October. EPA/540/R-00/007.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

Table 4.2.CT. Values Used for Daily Intake Calculations for Western Bayside

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Fish Tissue

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion of Shellfish	Fisher	Adult	Shellfish in Western Bayside	Cshell	Chemical Concentration in Shellfish	see Table 3.2.CT	mg/kg	---	Dose (mg/kg/day) =
				IRshell	Ingestion Rate of Shellfish	0.0008	kg/day	SFEI, 2002; U.S. EPA 1997	Cshell x IRshell x FI x EF x ED
				FI	Fraction Ingestion	0.5	N/A	(1)	/ (BW x AT)
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
Ingestion of Forage Fish	Fisher	Adult	Forage Fish in Western Bayside	Cfish	Chemical Concentration in Fish	see Table 3.3.CT	mg/kg	---	Dose (mg/kg/day) =
				IRfish	Ingestion Rate of Fish	0.016	kg/day	SFEI, 2002; U.S. EPA 1997	Cfish x IRfish x FI x EF x ED
				FI	Fraction Ingestion	0.5	N/A	(1)	/ (BW x AT)
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
		Child	Forage Fish in Western Bayside	Cfish	Chemical Concentration in Fish	see Table 3.3.CT	mg/kg	---	Dose (mg/kg/day) =
				IRfish	Ingestion Rate of Fish	0.0056	kg/day	SFEI, 2002; U.S. EPA 1997	Cfish x IRfish x FI x EF x ED
				FI	Fraction Ingestion	0.5	N/A	(1)	/ (BW x AT)
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	

(1) Professional Judgement.

Sources:

U.S. EPA, 1997: Exposure Factors Handbook. Office of Research and Development, Washington, DC. EPA/600/P-95/002Fb.

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

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U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

San Francisco Estuary Institute (SFEI). 2002. Public Summary of the San Francisco Bay Seafood Consumption Study. March. Available at http://www.sfei.org/rmp/index.html.

Table 4.1.RME. Values Used for Daily Intake Calculations for Western Bayside

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Combined (Ingestion & Dermal)	Fisher	Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	100	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	5,700	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.07	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	See Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
		Child	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	200	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	2,800	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.2	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	
		Child/Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = Csed x FI x EF x CF x (IRaased + (SC x DAF)) / ATc
				IRaased	Age Adjusted Sediment Ingestion Rate	114	mg-yr/kg-day	U.S. EPA, 2004	
				SC	Age Adjusted Skin Contact Rate	361	mg-yr/kg-day	U.S. EPA, 2004	

Table 4.1.RME. Values Used for Daily Intake Calculations for Western Bayside, continued

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				CF	Conversion Factor	0.000001	kg/mg	---	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
External (Radiation)	Fisher	Child/Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (pCi/g per year) = Csed x ED x GS x ET
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				GS	*gamma* Shielding Factor	0.4	N/A	U.S. EPA, 2000a, 2000b	
				ET	Exposure Time Percentage	2.40%	N/A	(1)	
Ingestion (Radiation)	Fisher	Child/Adult	Western Bayside	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (pCi) = Csed x IRsed X FI x EF x ED
				IRsed	Ingestion Rate of Sediment	100	mg/day	U.S. EPA, 2004	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	

(1) Professional Judgement.

Sources:

DTSC, 1994: *Preliminary Endangerment Assessment Guidance Manual.* State of California Environmental Protection Agency. January.

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

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U.S. EPA, 2000b: Soil Screening Guidance for Radionuclides: User's Guide. Prepared by the Office of Emergency and Remedial Response. October. EPA/540/R-00/007.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

Table 4.2.RME. Values Used for Daily Intake Calculations for Western Bayside

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Fish Tissue

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion of Shellfish	Fisher	Adult	Shellfish in Western Bayside	Cshell	Chemical Concentration in Shellfish	see Table 3.2.RME	mg/kg	---	Dose (mg/kg/day) = Cshell x IRshell x FI x EF x ED / (BW x AT)
				IRshell	Ingestion Rate of Shellfish	0.0054	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
Ingestion of Forage Fish	Fisher	Adult	Forage Fish in Western Bayside	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.108	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
		Child	Forage Fish in Western Bayside	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.011	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	

Table 4.2.RME. Values Used For Daily Intake Calculations for Western Bayside, continued

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
		Child/Adult	Forage Fish in Western Bayside	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = (Cfish x IRaafish x FI x EF) / ATc
				IRaafish	Age Adjusted Fish Ingestion Rate	0.041	yr/day	(2)	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	

(1) Professional Judgement.

(2) Age adjusted fish ingestion rate calculated as: (EDchild x IRfishchild)/BWchild + (EDadult x IRfishadult)/BWadult, where EDchild is 6 yr, IRshellchild is 0.011 kg/day, BWchild is 15 kg, EDadult is 24 yr, IRshelladult is 0.108 kg/day, and BWadult is 70 kg.

Sources:

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume 1. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

U.S. EPA, 1997: Exposure Factors Handbook. Office of Research and Development, Washington, DC. EPA/600/P-95/002Fb.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

San Francisco Estuary Institute (SFEI). 2002. Public Summary of the San Francisco Bay Seafood Consumption Study. March. Available at http://www.sfei.org/rmp/index.html.

Table 5.1. Non-Cancer Toxicity Data -- Oral/Dermal for Western Bayside

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
Ag	Chronic	5.0E-03	mg/kg-day	N/A	N/A	N/A	N/A	3	IRIS	10/28/05
As	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	liver/kidney/bladder	3	IRIS	10/28/05
Cd	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	kidney	10	IRIS	10/28/05
Cr [(b)]	Chronic	3.0E-03	mg/kg-day	N/A	N/A	N/A	liver/kidney	300	IRIS	10/28/05
Cu	Chronic	3.7E-02	mg/kg-day	N/A	N/A	N/A	gastrointestinal	N/A	HEAST	10/28/05
Hg [(b)]	Chronic	1.0E-04	mg/kg-day	N/A	N/A	N/A	developmental	10	IRIS	10/28/05
Ni	Chronic	2.0E-02	mg/kg-day	N/A	N/A	N/A	skin/kidney/reproductive	300	IRIS	10/28/05
Sb	Chronic	4.0E-04	mg/kg-day	N/A	N/A	N/A	blood	1000	IRIS	10/28/05
Se	Chronic	5.0E-03	mg/kg-day	N/A	N/A	N/A	N/A	3	IRIS	10/28/05
Zn	Chronic	3.0E-01	mg/kg-day	N/A	N/A	N/A	blood	3	IRIS	10/28/05
Acenaphthene	Chronic	6.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	Chronic	3.0E-01	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 5.1. Non-Cancer Toxicity Data -- Oral/Dermal for Western Bayside, continued

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s) (a)	Date(s)
Chrysene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	Chronic	4.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Fluorene	Chronic	4.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	N/A	N/A	N/A	lung	1000	IRIS	10/28/05
Naphthalene	Chronic	2.0E-02	mg/kg-day	N/A	N/A	N/A	liver/CNS	3000	IRIS	10/28/05
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	Chronic	3.0E-02	mg/kg-day	N/A	N/A	N/A	kidneys	3000	IRIS	10/28/05
Dibenzofuran	Chronic	2.0E-03	mg/kg-day	N/A	N/A	N/A	kidneys	10000	NCEA	10/28/05
2,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4'-DDT	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	CNS/reproductive/liver	100	IRIS	10/28/05
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	CNS/reproductive/liver	100	IRIS	10/28/05
alpha-Chlordane [(b)]	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	liver	300	IRIS	10/28/05
alpha-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	Chronic	5.0E-05	mg/kg-day	N/A	N/A	N/A	liver/CNS	100	IRIS	10/28/05
Endosulfan II	Chronic	6.0E-03	mg/kg-day	N/A	N/A	N/A	Immune system/liver	100	IRIS	10/28/05
Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
gamma-BHC	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	liver/kidney	1000	IRIS	06/05/06

Table 5.1. Non-Cancer Toxicity Data -- Oral/Dermal for Western Bayside, continued

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
gamma-Chlordane [(b)]	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	liver	300	IRIS	10/28/05
Heptachlor	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	liver	300	IRIS	06/05/06
Total PCBs	Chronic	2.0E-05	N/A	N/A	N/A	N/A	CNS/immune system/liver	300	IRIS	10/28/05
TBT	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	Immune system	100	IRIS	10/28/05

N/A = Not Applicable

CNS = central nervous system

IRIS = Integrated Risk Information System

HEAST = Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

(a) The more conservative value was used.

(b) Toxicity values for methylmercury, chromium (IV), and technical chlordane were applied.

Table 6.1. Cancer Toxicity Data -- Oral/Dermal for Western Bayside

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s) (a)	Date(s)
Ag	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
As	9.45E+00	(mg/kg-day)-1	N/A	N/A	N/A	A	OEHHA	10/28/05
Cd	3.80E-01	(mg/kg-day)-1	N/A	N/A	N/A	B1	OEHHA	10/28/05
Cr (b)	1.90E-01	(mg/kg-day)-1	N/A	N/A	N/A	A, K (inhalation), D (oral)	OEHHA	10/28/05
Cu	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Hg (b)	N/A	N/A	N/A	N/A	N/A	D, C (MeHg)	N/A	N/A
Ni	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sb	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Zn	N/A	N/A	N/A	N/A	N/A	I	N/A	N/A
Acenaphthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Anthracene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Benzo(a)anthracene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(a)pyrene	1.20E+01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(b)fluoranthene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Benzo(k)fluoranthene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Chrysene	1.20E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Dibenz(a,h)anthracene	4.10E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05

Table 6.1. Cancer Toxicity Data -- Oral/Dermal for Western Bayside, continued

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s) (a)	Date(s)
Fluoranthene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Fluorene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Indeno(1,2,3-cd)pyrene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	I	N/A	N/A
Naphthalene	1.20E-01	(mg/kg-day)-1	N/A	N/A	N/A	C, I	OEHHA	10/28/05
Phenanthrene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Pyrene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Dibenzofuran	N/A	N/A	N/A	N/A	N/A	D	IRIS	05/15/06
2,4'-DDD	2.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
2,4'-DDE	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
2,4'-DDT	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
4,4'-DDD	2.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
4,4'-DDE	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
4,4'-DDT	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
alpha-Chlordane (b)	1.30E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2, K	OEHHA	10/28/05
alpha-BHC	6.30E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
Dieldrin	1.60E+01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
Endosulfan II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
gamma-BHC	1.10E+00	(mg/kg-day)-1	N/A	N/A	N/A	N/A	OEHHA	10/28/05
gamma-Chlordane (b)	1.30E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2, K	OEHHA	10/28/05

Table 6.1. Cancer Toxicity Data -- Oral/Dermal for Western Bayside, continued

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s) (a)	Date(s)
Heptachlor	4.50E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
Total PCBs	5.00E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
TBT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not Applicable

OEHHA = California Office of Environmental Health Hazard Assessment

IRIS = Integrated Risk Information System

(a) When more than one source exists, the more conservative value was used.

(b) Toxicity values for methylmercury, chromium (IV), and technical chlordane were applied.

A - Human Carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probably human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen

E - Evidence of noncarcinogenicity

1996 EPA Classification:

K - Known/Likely

CBD - Cannot be Determined

UL - Not Likely

2005 Classification

CaH - Carcinogenic to Humans

LH - Likely to be Carcinogenic to Humans

S - Suggestive Evidence of Carcinogenic Potential

I - Inadequate Information to Assess Carcinogenic Potential

NL - Not Likely to be Carcinogenic to Humans

Table 6.4. Cancer Toxicity Data -- External (Radiation) for Western Bayside

Chemical of Potential Concern	Cancer Slope Factor		Source(s)	Date(s)
	Value	Units		
Radium-226 (external)	8.49E-06	risk/yr per pCi/g soil	U.S. EPA HEAST	2001
Radium-228 (external)	4.53E-06	risk/yr per pCi/g soil	U.S. EPA HEAST	2001
Radium-226 (ingestion)	7.3E-10	risk/pCi	U.S. EPA HEAST	2001
Radium-228 (ingestion)	2.3E-09	risk/pCi	U.S. EPA HEAST	2001

HEAST = Health Effects Assessment Summary Tables

Table 7.1.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	Combined (Ingestion and Dermal)	Ag	2.07E-01	mg/kg dry	3.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-09	mg/kg-day	5.0E-03	mg/kg-day	5.7E-07
				As	5.77E+00	mg/kg dry	1.2E-08	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.1E-07	9.1E-08	mg/kg-day	3.0E-04	mg/kg-day	3.0E-04
				Cd	1.38E-01	mg/kg dry	2.3E-10	mg/kg-day	3.8E-01	(mg/kg-day)-1	8.7E-11	1.8E-09	mg/kg-day	5.0E-04	mg/kg-day	3.5E-06
				Cr	7.55E+01	mg/kg dry	1.2E-07	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.3E-08	9.6E-07	mg/kg-day	3.0E-03	mg/kg-day	3.2E-04
				Cu	2.52E+01	mg/kg dry	4.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.5E-07	mg/kg-day	3.7E-02	mg/kg-day	9.3E-06
				Hg	2.12E-01	mg/kg dry	3.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.9E-09	mg/kg-day	1.0E-04	mg/kg-day	2.9E-05
				Ni	4.58E+01	mg/kg dry	8.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.3E-07	mg/kg-day	2.0E-02	mg/kg-day	3.1E-05
				Sb	9.78E+00	mg/kg dry	1.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-07	mg/kg-day	4.0E-04	mg/kg-day	3.4E-04
				Se	2.22E-01	mg/kg dry	3.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-09	mg/kg-day	5.0E-03	mg/kg-day	6.1E-07
				Zn	7.12E+01	mg/kg dry	1.3E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.8E-07	mg/kg-day	3.0E-01	mg/kg-day	3.3E-06
				Acenaphthene	<3.70E-02>	mg/kg dry	1.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-09	mg/kg-day	6.0E-02	mg/kg-day	1.7E-08
				Acenaphthylene	<1.70E-02>	mg/kg dry	6.1E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.8E-10	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	6.09E-02	mg/kg dry	2.2E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-09	mg/kg-day	3.0E-01	mg/kg-day	5.7E-09
				Benzo(a)anthracene	9.41E-02	mg/kg dry	3.4E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.1E-10	2.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	1.71E-01	mg/kg dry	6.1E-10	mg/kg-day	1.2E+01	(mg/kg-day)-1	7.4E-09	4.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	1.63E-01	mg/kg dry	5.9E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.0E-10	4.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.38E-01	mg/kg dry	4.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.12E-01	mg/kg dry	4.0E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.8E-10	3.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-01	mg/kg dry	4.8E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	5.8E-11	3.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	5.53E-02	mg/kg dry	2.0E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	8.1E-10	1.5E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.69E-01	mg/kg dry	6.1E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.7E-09	mg/kg-day	4.0E-02	mg/kg-day	1.2E-07
				Fluorene	<3.20E-02>	mg/kg dry	1.1E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.9E-10	mg/kg-day	4.0E-02	mg/kg-day	2.2E-08
				Indeno(1,2,3-cd)pyrene	1.38E-01	mg/kg dry	5.0E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	6.0E-10	3.9E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<7.80E-03>	mg/kg dry	2.8E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-10	mg/kg-day	4.0E-03	mg/kg-day	5.4E-08
				Naphthalene	<2.20E-02>	mg/kg dry	7.9E-11	mg/kg-day	1.2E-01	(mg/kg-day)-1	9.5E-12	6.1E-10	mg/kg-day	2.0E-02	mg/kg-day	3.1E-08
				Phenanthrene	7.29E-02	mg/kg dry	2.6E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.95E-01	mg/kg dry	7.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.5E-09	mg/kg-day	3.0E-02	mg/kg-day	1.8E-07
				Dibenzofuran	5.32E-03	mg/kg dry	1.9E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-10	mg/kg-day	2.0E-03	mg/kg-day	7.4E-08
				2,4'-DDD	3.64E-04	mg/kg dry	8.3E-13	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.0E-13	6.5E-12	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDE	9.94E-05	mg/kg dry	2.3E-13	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.7E-14	1.8E-12	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.50E-04	mg/kg dry	3.4E-13	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.2E-13	2.7E-12	mg/kg-day	5.0E-04	mg/kg-day	5.3E-09
				4,4'-DDD	2.84E-03	mg/kg dry	6.5E-12	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.6E-12	5.0E-11	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.23E-03	mg/kg dry	5.1E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.7E-12	4.0E-11	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.56E-03	mg/kg dry	5.9E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.0E-12	4.6E-11	mg/kg-day	5.0E-04	mg/kg-day	9.1E-08
				alpha-Chlordane	8.54E-04	mg/kg dry	2.0E-12	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.5E-12	1.5E-11	mg/kg-day	5.0E-04	mg/kg-day	3.0E-08
				alpha-BHC	<4.00E-04>	mg/kg dry	9.2E-13	mg/kg-day	6.3E+00	(mg/kg-day)-1	5.8E-12	7.1E-12	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	<1.13E-03>	mg/kg dry	2.6E-12	mg/kg-day	1.6E+01	(mg/kg-day)-1	4.1E-11	2.0E-11	mg/kg-day	5.0E-05	mg/kg-day	4.0E-07
				Endosulfan II	<4.30E-04>	mg/kg dry	9.8E-13	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.7E-12	mg/kg-day	6.0E-03	mg/kg-day	1.3E-09
				Endrin aldehyde	<1.49E-03>	mg/kg dry	3.4E-12	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-11	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	<4.90E-04>	mg/kg dry	1.1E-12	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.2E-12	8.7E-12	mg/kg-day	3.0E-04	mg/kg-day	2.9E-08
				gamma-Chlordane	8.27E-04	mg/kg dry	1.9E-12	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.5E-12	1.5E-11	mg/kg-day	5.0E-04	mg/kg-day	2.9E-08
				Heptachlor	<2.20E-04>	mg/kg dry	5.0E-13	mg/kg-day	4.5E+00	(mg/kg-day)-1	2.3E-12	3.9E-12	mg/kg-day	5.0E-04	mg/kg-day	7.8E-09
				Total PCBs	1.86E-02	mg/kg dry	6.7E-11	mg/kg-day	5.0E+00	(mg/kg-day)-1	3.3E-10	5.2E-10	mg/kg-day	2.0E-05	mg/kg-day	2.6E-05
				TBT	3.82E-03	mg/kg dry	1.1E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.7E-11	mg/kg-day	3.0E-04	mg/kg-day	2.9E-07
			Exp. Route Total								1.4E-07					1.1E-03
		Exposure Point Total									1.4E-07					1.1E-03
	Exposure Medium Total										1.4E-07					1.1E-03
	Fish Tissue	Shellfish in Western Bayside	Ingestion	Ag	5.87E-03	mg/kg wet	4.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.4E-08	mg/kg-day	5.0E-03	mg/kg-day	6.7E-06
				As	2.97E+00	mg/kg wet	2.2E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	2.1E-05	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	5.6E-02
				Cd	2.67E-03	mg/kg wet	2.0E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	7.5E-10	1.5E-08	mg/kg-day	5.0E-04	mg/kg-day	3.1E-05
				Cr	2.37E+00	mg/kg wet	1.7E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	3.3E-07	1.4E-05	mg/kg-day	3.0E-03	mg/kg-day	4.5E-03
				Cu	1.33E+00	mg/kg wet	9.8E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.6E-06	mg/kg-day	3.7E-02	mg/kg-day	2.1E-04
				Hg	1.68E-02	mg/kg wet	1.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.6E-08	mg/kg-day	1.0E-04	mg/kg-day	9.6E-04
				Ni	4.70E-01	mg/kg wet	3.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-06	mg/kg-day	2.0E-02	mg/kg-day	1.3E-04
				Sb	3.10E-01	mg/kg wet	2.3E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-06	mg/kg-day	4.0E-04	mg/kg-day	4.4E-03
				Se	1.37E-01	mg/kg wet	1.0E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.9E-07	mg/kg-day	5.0E-03	mg/kg-day	1.6E-04
				Zn	1.23E+01	mg/kg wet	9.0E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-05	mg/kg-day	3.0E-01	mg/kg-day	2.3E-04
				Acenaphthene	2.21E-03	mg/kg wet	1.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	6.0E-02	mg/kg-day	2.1E-07
				Acenaphthylene	1.82E-03	mg/kg wet	1.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	4.61E-03	mg/kg wet	3.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-08	mg/kg-day	3.0E-01	mg/kg-day	8.8E-08
				Benzo(a)anthracene	1.19E-02	mg/kg wet	8.7E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.0E-08	6.8E-08	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Benzo(a)pyrene	1.96E-02	mg/kg wet	1.4E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.7E-07	1.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.07E-02	mg/kg wet	1.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.8E-08	1.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	5.83E-03	mg/kg wet	4.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.20E-02	mg/kg wet	8.8E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.1E-08	6.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-02	mg/kg wet	9.8E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.2E-09	7.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	1.61E-03	mg/kg wet	1.2E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	4.8E-09	9.2E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	3.90E-02	mg/kg wet	2.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-07	mg/kg-day	4.0E-02	mg/kg-day	5.6E-06
				Fluorene	1.46E-03	mg/kg wet	1.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.4E-09	mg/kg-day	4.0E-02	mg/kg-day	2.1E-07
				Indeno(1,2,3-cd)pyrene	4.25E-03	mg/kg wet	3.1E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.7E-09	2.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	>3.36E-02<	mg/kg wet	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.9E-07	mg/kg-day	4.0E-03	mg/kg-day	4.8E-05
				Naphthalene	7.05E-03	mg/kg wet	5.2E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.2E-10	4.0E-08	mg/kg-day	2.0E-02	mg/kg-day	2.0E-06
				Phenanthrene	2.22E-03	mg/kg wet	1.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.52E-02	mg/kg wet	4.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-07	mg/kg-day	3.0E-02	mg/kg-day	1.2E-05
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	N/A	mg/kg wet	N/A	mg/kg-day	2.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	N/A	mg/kg wet	N/A	mg/kg-day	3.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	N/A	mg/kg wet	N/A	mg/kg-day	3.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				4,4'-DDD	6.39E-04	mg/kg wet	4.7E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.1E-10	3.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.12E-03	mg/kg wet	8.2E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.8E-10	6.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	1.19E-03	mg/kg wet	8.7E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.0E-10	6.8E-09	mg/kg-day	5.0E-04	mg/kg-day	1.4E-05
				alpha-Chlordane	8.93E-05	mg/kg wet	6.6E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	8.5E-11	5.1E-10	mg/kg-day	5.0E-04	mg/kg-day	1.0E-06
				alpha-BHC	>2.50E-04<	mg/kg wet	1.8E-10	mg/kg-day	6.3E+00	(mg/kg-day)-1	1.2E-09	1.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	1.22E-03	mg/kg wet	9.0E-10	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.4E-08	7.0E-09	mg/kg-day	5.0E-05	mg/kg-day	1.4E-04
				Endosulfan II	>5.00E-04<	mg/kg wet	3.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.9E-09	mg/kg-day	6.0E-03	mg/kg-day	4.8E-07
				Endrin aldehyde	>1.00E-03<	mg/kg wet	7.4E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	>2.50E-04<	mg/kg wet	1.8E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	2.0E-10	1.4E-09	mg/kg-day	3.0E-04	mg/kg-day	4.8E-06
				gamma-Chlordane	7.66E-04	mg/kg wet	5.6E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	7.3E-10	4.4E-09	mg/kg-day	5.0E-04	mg/kg-day	8.8E-06
				Heptachlor	1.39E-04	mg/kg wet	1.0E-10	mg/kg-day	4.5E+00	(mg/kg-day)-1	4.6E-10	7.9E-10	mg/kg-day	5.0E-04	mg/kg-day	1.6E-06
				Total PCBs	4.24E-03	mg/kg wet	3.1E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.6E-08	2.4E-08	mg/kg-day	2.0E-05	mg/kg-day	1.2E-03
				TBT	>2.36E-03<	mg/kg wet	1.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	3.0E-04	mg/kg-day	4.5E-05

Table 7.1.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Exp. Route Total								2.1E-05					6.9E-02
		Exposure Point Total									2.1E-05					6.9E-02
		Forage Fish in Western Bayside	Ingestion	Ag	9.33E-04	mg/kg wet	1.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-07	mg/kg-day	5.0E-03	mg/kg-day	2.1E-05
				As	1.72E-01	mg/kg wet	2.5E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	2.4E-05	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	6.6E-02
				Cd	5.39E-04	mg/kg wet	7.9E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	3.0E-09	6.2E-08	mg/kg-day	5.0E-04	mg/kg-day	1.2E-04
				Cr	1.96E-01	mg/kg wet	2.9E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	5.5E-07	2.2E-05	mg/kg-day	3.0E-03	mg/kg-day	7.5E-03
				Cu	3.65E-01	mg/kg wet	5.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.2E-05	mg/kg-day	3.7E-02	mg/kg-day	1.1E-03
				Hg	9.43E-03	mg/kg wet	1.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-06	mg/kg-day	1.0E-04	mg/kg-day	1.1E-02
				Ni	5.04E-02	mg/kg wet	7.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.8E-06	mg/kg-day	2.0E-02	mg/kg-day	2.9E-04
				Sb	9.78E-03	mg/kg wet	1.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-06	mg/kg-day	4.0E-04	mg/kg-day	2.8E-03
				Se	7.65E-02	mg/kg wet	1.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.7E-06	mg/kg-day	5.0E-03	mg/kg-day	1.7E-03
				Zn	4.59E+00	mg/kg wet	6.7E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-04	mg/kg-day	3.0E-01	mg/kg-day	1.7E-03
				Acenaphthene	9.81E-04	mg/kg wet	1.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-07	mg/kg-day	6.0E-02	mg/kg-day	1.9E-06
				Acenaphthylene	2.38E-05	mg/kg wet	3.5E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	2.92E-04	mg/kg wet	4.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-08	mg/kg-day	3.0E-01	mg/kg-day	1.1E-07
				Benzo(a)anthracene	1.79E-04	mg/kg wet	2.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.2E-09	2.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.40E-04	mg/kg wet	3.5E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	4.2E-08	2.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.45E-04	mg/kg wet	3.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.3E-09	2.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.34E-04	mg/kg wet	3.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	2.90E-04	mg/kg wet	4.3E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	5.1E-09	3.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	5.23E-04	mg/kg wet	7.7E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	9.2E-10	6.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	3.32E-05	mg/kg wet	4.9E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.0E-09	3.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.16E-03	mg/kg wet	1.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-07	mg/kg-day	4.0E-02	mg/kg-day	3.3E-06
				Fluorene	4.64E-04	mg/kg wet	6.8E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.3E-08	mg/kg-day	4.0E-02	mg/kg-day	1.3E-06
				Indeno(1,2,3-cd)pyrene	1.80E-04	mg/kg wet	2.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.2E-09	2.1E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	3.43E-05	mg/kg wet	5.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.9E-09	mg/kg-day	4.0E-03	mg/kg-day	9.8E-07
				Naphthalene	1.61E-04	mg/kg wet	2.4E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.8E-10	1.8E-08	mg/kg-day	2.0E-02	mg/kg-day	9.2E-07
				Phenanthrene	1.37E-03	mg/kg wet	2.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.64E-04	mg/kg wet	9.8E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.6E-08	mg/kg-day	3.0E-02	mg/kg-day	2.5E-06
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	1.49E-06	mg/kg wet	2.2E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.3E-12	1.7E-10	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDE	2.58E-05	mg/kg wet	3.8E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.3E-10	2.9E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.04E-05	mg/kg wet	1.5E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.2E-11	1.2E-09	mg/kg-day	5.0E-04	mg/kg-day	2.4E-06
				4,4'-DDD	1.46E-03	mg/kg wet	2.1E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.1E-09	1.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.83E-03	mg/kg wet	4.2E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.4E-08	3.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	3.09E-04	mg/kg wet	4.5E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.5E-09	3.5E-08	mg/kg-day	5.0E-04	mg/kg-day	7.1E-05
				alpha-Chlordane	3.02E-04	mg/kg wet	4.4E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.8E-09	3.4E-08	mg/kg-day	5.0E-04	mg/kg-day	6.9E-05
				alpha-BHC	4.36E-06	mg/kg wet	6.4E-11	mg/kg-day	6.3E+00	(mg/kg-day)-1	4.0E-10	5.0E-10	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	2.59E-04	mg/kg wet	3.8E-09	mg/kg-day	1.6E+01	(mg/kg-day)-1	6.1E-08	3.0E-08	mg/kg-day	5.0E-05	mg/kg-day	5.9E-04
				Endosulfan II	3.91E-06	mg/kg wet	5.7E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-10	mg/kg-day	6.0E-03	mg/kg-day	7.5E-08
				Endrin aldehyde	8.64E-06	mg/kg wet	1.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.9E-10	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	6.32E-06	mg/kg wet	9.3E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.0E-10	7.2E-10	mg/kg-day	3.0E-04	mg/kg-day	2.4E-06
				gamma-Chlordane	9.78E-05	mg/kg wet	1.4E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.9E-09	1.1E-08	mg/kg-day	5.0E-04	mg/kg-day	2.2E-05
				Heptachlor	1.01E-06	mg/kg wet	1.5E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	6.7E-11	1.2E-10	mg/kg-day	5.0E-04	mg/kg-day	2.3E-07
				Total PCBs	1.26E-02	mg/kg wet	1.8E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	9.2E-07	1.4E-06	mg/kg-day	2.0E-05	mg/kg-day	7.2E-02
				TBT	4.80E-03	mg/kg wet	7.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1.8E-03
			Exp. Route Total								2.6E-05					1.7E-01
		Exposure Point Total									2.6E-05					1.7E-01
	Exposure Medium Total										4.7E-05					2.3E-01
Medium Total											4.7E-05					2.4E-01
							Total of Receptor Risks Across All Media				4.7E-05	Total of Receptor Hazards Across All Media				2.4E-01

Table 7.2.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	Combined (Ingestion and Dermal)	Ag	2.07E-01	mg/kg dry	2.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-08	mg/kg-day	5.0E-03	mg/kg-day	5.2E-06
				As	5.77E+00	mg/kg dry	6.9E-08	mg/kg-day	9.5E+00	(mg/kg-day)-1	6.5E-07	8.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2.7E-03
				Cd	1.38E-01	mg/kg dry	1.4E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	5.4E-10	1.7E-08	mg/kg-day	5.0E-04	mg/kg-day	3.3E-05
				Cr	7.55E+01	mg/kg dry	7.7E-07	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.5E-07	9.0E-06	mg/kg-day	3.0E-03	mg/kg-day	3.0E-03
				Cu	2.52E+01	mg/kg dry	2.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-06	mg/kg-day	3.7E-02	mg/kg-day	8.5E-05
				Hg	2.12E-01	mg/kg dry	2.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-08	mg/kg-day	1.0E-04	mg/kg-day	2.7E-04
				Ni	4.58E+01	mg/kg dry	4.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.7E-06	mg/kg-day	2.0E-02	mg/kg-day	2.9E-04
				Sb	9.78E+00	mg/kg dry	1.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-06	mg/kg-day	4.0E-04	mg/kg-day	3.1E-03
				Se	2.22E-01	mg/kg dry	2.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-08	mg/kg-day	5.0E-03	mg/kg-day	5.6E-06
				Zn	7.12E+01	mg/kg dry	7.6E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.9E-06	mg/kg-day	3.0E-01	mg/kg-day	3.0E-05
				Acenaphthene	<3.70E-02>	mg/kg dry	6.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.1E-09	mg/kg-day	6.0E-02	mg/kg-day	1.3E-07
				Acenaphthylene	<1.70E-02>	mg/kg dry	3.2E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	6.09E-02	mg/kg dry	1.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	3.0E-01	mg/kg-day	4.4E-08
				Benzo(a)anthracene	9.41E-02	mg/kg dry	1.8E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.1E-09	2.1E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	1.71E-01	mg/kg dry	3.2E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	3.8E-08	3.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	1.63E-01	mg/kg dry	3.1E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.7E-09	3.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.38E-01	mg/kg dry	2.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.12E-01	mg/kg dry	2.1E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.5E-09	2.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-01	mg/kg dry	2.5E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.0E-10	2.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	5.53E-02	mg/kg dry	1.0E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	4.2E-09	1.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.69E-01	mg/kg dry	3.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-08	mg/kg-day	4.0E-02	mg/kg-day	9.2E-07
				Fluorene	<3.20E-02>	mg/kg dry	6.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-09	mg/kg-day	4.0E-02	mg/kg-day	1.7E-07
				Indeno(1,2,3-cd)pyrene	1.38E-01	mg/kg dry	2.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.1E-09	3.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<7.80E-03>	mg/kg dry	1.5E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-09	mg/kg-day	4.0E-03	mg/kg-day	4.3E-07
				Naphthalene	<2.20E-02>	mg/kg dry	4.1E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.9E-11	4.8E-09	mg/kg-day	2.0E-02	mg/kg-day	2.4E-07
				Phenanthrene	7.29E-02	mg/kg dry	1.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.95E-01	mg/kg dry	3.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.3E-08	mg/kg-day	3.0E-02	mg/kg-day	1.4E-06
				Dibenzofuran	5.32E-03	mg/kg dry	1.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-09	mg/kg-day	2.0E-03	mg/kg-day	5.8E-07

Table 7.2.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDD	3.64E-04	mg/kg dry	4.7E-12	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.1E-12	5.5E-11	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	9.94E-05	mg/kg dry	1.3E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.4E-13	1.5E-11	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.50E-04	mg/kg dry	2.0E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.6E-13	2.3E-11	mg/kg-day	5.0E-04	mg/kg-day	4.6E-08
				4,4'-DDD	2.84E-03	mg/kg dry	3.7E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	8.9E-12	4.3E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.23E-03	mg/kg dry	2.9E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	9.9E-12	3.4E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.56E-03	mg/kg dry	3.3E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.1E-11	3.9E-10	mg/kg-day	5.0E-04	mg/kg-day	7.8E-07
				alpha-Chlordane	8.54E-04	mg/kg dry	1.1E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.4E-11	1.3E-10	mg/kg-day	5.0E-04	mg/kg-day	2.6E-07
				alpha-BHC	<4.00E-04>	mg/kg dry	5.2E-12	mg/kg-day	6.3E+00	(mg/kg-day)-1	3.3E-11	6.1E-11	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	<1.13E-03>	mg/kg dry	1.5E-11	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.4E-10	1.7E-10	mg/kg-day	5.0E-05	mg/kg-day	3.4E-06
				Endosulfan II	<4.30E-04>	mg/kg dry	5.6E-12	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.5E-11	mg/kg-day	6.0E-03	mg/kg-day	1.1E-08
				Endrin aldehyde	<1.49E-03>	mg/kg dry	1.9E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-10	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	<4.90E-04>	mg/kg dry	6.4E-12	mg/kg-day	1.1E+00	(mg/kg-day)-1	7.0E-12	7.4E-11	mg/kg-day	3.0E-04	mg/kg-day	2.5E-07
				gamma-Chlordane	8.27E-04	mg/kg dry	1.1E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.4E-11	1.3E-10	mg/kg-day	5.0E-04	mg/kg-day	2.5E-07
				Heptachlor	<2.20E-04>	mg/kg dry	2.9E-12	mg/kg-day	4.5E+00	(mg/kg-day)-1	1.3E-11	3.3E-11	mg/kg-day	5.0E-04	mg/kg-day	6.7E-08
				Total PCBs	1.86E-02	mg/kg dry	3.5E-10	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.7E-09	4.1E-09	mg/kg-day	2.0E-05	mg/kg-day	2.0E-04
				TBT	3.82E-03	mg/kg dry	6.1E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.1E-10	mg/kg-day	3.0E-04	mg/kg-day	2.4E-06
			Exp. Route Total								8.5E-07					9.6E-03
		Exposure Point Total									8.5E-07					9.6E-03
	Exposure Medium Total										8.5E-07					9.6E-03
	Fish Tissue	Forage Fish in Western Bayside	Ingestion	Ag	9.33E-04	mg/kg wet	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	5.0E-03	mg/kg-day	3.5E-05
				As	1.72E-01	mg/kg wet	2.8E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	2.6E-05	3.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1.1E-01
				Cd	5.39E-04	mg/kg wet	8.6E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	3.3E-09	1.0E-07	mg/kg-day	5.0E-04	mg/kg-day	2.0E-04
				Cr	1.96E-01	mg/kg wet	3.1E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	6.0E-07	3.7E-05	mg/kg-day	3.0E-03	mg/kg-day	1.2E-02
				Cu	3.65E-01	mg/kg wet	5.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.8E-05	mg/kg-day	3.7E-02	mg/kg-day	1.8E-03
				Hg	9.43E-03	mg/kg wet	1.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-06	mg/kg-day	1.0E-04	mg/kg-day	1.8E-02
				Ni	5.04E-02	mg/kg wet	8.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.4E-06	mg/kg-day	2.0E-02	mg/kg-day	4.7E-04
				Sb	9.78E-03	mg/kg wet	1.6E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-06	mg/kg-day	4.0E-04	mg/kg-day	4.6E-03
				Se	7.65E-02	mg/kg wet	1.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-05	mg/kg-day	5.0E-03	mg/kg-day	2.9E-03
				Zn	4.59E+00	mg/kg wet	7.3E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.6E-04	mg/kg-day	3.0E-01	mg/kg-day	2.9E-03
				Acenaphthene	9.81E-04	mg/kg wet	1.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-07	mg/kg-day	6.0E-02	mg/kg-day	3.1E-06
				Acenaphthylene	2.38E-05	mg/kg wet	3.8E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-09	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Anthracene	2.92E-04	mg/kg wet	4.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.5E-08	mg/kg-day	3.0E-01	mg/kg-day	1.8E-07
				Benzo(a)anthracene	1.79E-04	mg/kg wet	2.9E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.4E-09	3.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.40E-04	mg/kg wet	3.8E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	4.6E-08	4.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.45E-04	mg/kg wet	3.9E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.7E-09	4.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.34E-04	mg/kg wet	3.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	2.90E-04	mg/kg wet	4.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	5.6E-09	5.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	5.23E-04	mg/kg wet	8.4E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.0E-09	9.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	3.32E-05	mg/kg wet	5.3E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.2E-09	6.2E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.16E-03	mg/kg wet	1.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-07	mg/kg-day	4.0E-02	mg/kg-day	5.4E-06
				Fluorene	4.64E-04	mg/kg wet	7.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.7E-08	mg/kg-day	4.0E-02	mg/kg-day	2.2E-06
				Indeno(1,2,3-cd)pyrene	1.80E-04	mg/kg wet	2.9E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.5E-09	3.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	3.43E-05	mg/kg wet	5.5E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.4E-09	mg/kg-day	4.0E-03	mg/kg-day	1.6E-06
				Naphthalene	1.61E-04	mg/kg wet	2.6E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.1E-10	3.0E-08	mg/kg-day	2.0E-02	mg/kg-day	1.5E-06
				Phenanthrene	1.37E-03	mg/kg wet	2.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.64E-04	mg/kg wet	1.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-07	mg/kg-day	3.0E-02	mg/kg-day	4.1E-06
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	1.49E-06	mg/kg wet	2.4E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.7E-12	2.8E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	2.58E-05	mg/kg wet	4.1E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.4E-10	4.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.04E-05	mg/kg wet	1.7E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.6E-11	1.9E-09	mg/kg-day	5.0E-04	mg/kg-day	3.9E-06
				4,4'-DDD	1.46E-03	mg/kg wet	2.3E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.6E-09	2.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.83E-03	mg/kg wet	4.5E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.5E-08	5.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	3.09E-04	mg/kg wet	4.9E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.7E-09	5.8E-08	mg/kg-day	5.0E-04	mg/kg-day	1.2E-04
				alpha-Chlordane	3.02E-04	mg/kg wet	4.8E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	6.3E-09	5.6E-08	mg/kg-day	5.0E-04	mg/kg-day	1.1E-04
				alpha-BHC	4.36E-06	mg/kg wet	7.0E-11	mg/kg-day	6.3E+00	(mg/kg-day)-1	4.4E-10	8.1E-10	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	2.59E-04	mg/kg wet	4.1E-09	mg/kg-day	1.6E+01	(mg/kg-day)-1	6.6E-08	4.8E-08	mg/kg-day	5.0E-05	mg/kg-day	9.7E-04
				Endosulfan II	3.91E-06	mg/kg wet	6.3E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.3E-10	mg/kg-day	6.0E-03	mg/kg-day	1.2E-07
				Endrin aldehyde	8.64E-06	mg/kg wet	1.4E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	6.32E-06	mg/kg wet	1.0E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.1E-10	1.2E-09	mg/kg-day	3.0E-04	mg/kg-day	3.9E-06
				gamma-Chlordane	9.78E-05	mg/kg wet	1.6E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.0E-09	1.8E-08	mg/kg-day	5.0E-04	mg/kg-day	3.7E-05
				Heptachlor	1.01E-06	mg/kg wet	1.6E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	7.3E-11	1.9E-10	mg/kg-day	5.0E-04	mg/kg-day	3.8E-07
				Total PCBs	1.26E-02	mg/kg wet	2.0E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.0E-06	2.3E-06	mg/kg-day	2.0E-05	mg/kg-day	1.2E-01
				TBT	4.80E-03	mg/kg wet	7.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03

Table 7.2.CT. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Exp. Route Total								2.8E-05					2.7E-01
		Exposure Point Total									2.8E-05					2.7E-01
	Exposure Medium Total										2.8E-05					2.7E-01
Medium Total											2.9E-05					2.8E-01
								Total of Receptor Risks Across All Media			2.9E-05	Total of Receptor Hazards Across All Media				2.8E-01

Table 7.1.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk (a)	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value (a)	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	Combined (Ingestion and Dermal)	Ag	2.07E-01	mg/kg dry	9.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-08	mg/kg-day	5.0E-03	mg/kg-day	4.4E-06
				As	5.77E+00	mg/kg dry	2.8E-07	mg/kg-day	9.5E+00	(mg/kg-day)-1	2.7E-06	6.6E-07	mg/kg-day	3.0E-04	mg/kg-day	2.2E-03
				Cd	1.38E-01	mg/kg dry	6.1E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	2.3E-09	1.4E-08	mg/kg-day	5.0E-04	mg/kg-day	2.8E-05
				Cr	7.55E+01	mg/kg dry	3.3E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	6.3E-07	7.7E-06	mg/kg-day	3.0E-03	mg/kg-day	2.6E-03
				Cu	2.52E+01	mg/kg dry	1.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-06	mg/kg-day	3.7E-02	mg/kg-day	7.2E-05
				Hg	2.12E-01	mg/kg dry	9.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-08	mg/kg-day	1.0E-04	mg/kg-day	2.2E-04
				Ni	4.58E+01	mg/kg dry	2.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.9E-06	mg/kg-day	2.0E-02	mg/kg-day	2.4E-04
				Sb	9.78E+00	mg/kg dry	4.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-06	mg/kg-day	4.0E-04	mg/kg-day	2.6E-03
				Se	2.22E-01	mg/kg dry	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-08	mg/kg-day	5.0E-03	mg/kg-day	4.7E-06
				Zn	7.12E+01	mg/kg dry	3.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.5E-06	mg/kg-day	3.0E-01	mg/kg-day	2.5E-05
				Acenaphthene	<3.70E-02>	mg/kg dry	2.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.0E-09	mg/kg-day	6.0E-02	mg/kg-day	1.0E-07
				Acenaphthylene	<1.70E-02>	mg/kg dry	1.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	6.09E-02	mg/kg dry	4.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.9E-09	mg/kg-day	3.0E-01	mg/kg-day	3.3E-08
				Benzo(a)anthracene	9.41E-02	mg/kg dry	6.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.9E-09	1.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	1.71E-01	mg/kg dry	1.2E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.4E-07	2.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	1.63E-01	mg/kg dry	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-08	2.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.38E-01	mg/kg dry	9.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.12E-01	mg/kg dry	7.8E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	9.3E-09	1.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-01	mg/kg dry	9.4E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.1E-09	2.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	5.53E-02	mg/kg dry	3.9E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	1.6E-08	9.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.69E-01	mg/kg dry	1.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-08	mg/kg-day	4.0E-02	mg/kg-day	6.9E-07
				Fluorene	<3.20E-02>	mg/kg dry	2.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-09	mg/kg-day	4.0E-02	mg/kg-day	1.3E-07
				Indeno(1,2,3-cd)pyrene	1.38E-01	mg/kg dry	9.6E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.2E-08	2.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<7.80E-03>	mg/kg dry	5.4E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-09	mg/kg-day	4.0E-03	mg/kg-day	3.2E-07

Table 7.1.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk (a)	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value (a)	Units	Value	Units		Value	Units	Value	Units	
				Naphthalene	<2.20E-02>	mg/kg dry	1.5E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.8E-10	3.6E-09	mg/kg-day	2.0E-02	mg/kg-day	1.8E-07
				Phenanthrene	7.29E-02	mg/kg dry	5.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.95E-01	mg/kg dry	1.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-08	mg/kg-day	3.0E-02	mg/kg-day	1.1E-06
				Dibenzofuran	5.32E-03	mg/kg dry	3.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.7E-10	mg/kg-day	2.0E-03	mg/kg-day	4.3E-07
				2,4'-DDD	3.64E-04	mg/kg dry	1.9E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	4.6E-12	4.4E-11	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	9.94E-05	mg/kg dry	5.2E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.8E-12	1.2E-11	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.50E-04	mg/kg dry	7.8E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.7E-12	1.8E-11	mg/kg-day	5.0E-04	mg/kg-day	3.7E-08
				4,4'-DDD	2.84E-03	mg/kg dry	1.5E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	3.6E-11	3.5E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.23E-03	mg/kg dry	1.2E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.0E-11	2.7E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.56E-03	mg/kg dry	1.3E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.5E-11	3.1E-10	mg/kg-day	5.0E-04	mg/kg-day	6.2E-07
				alpha-Chlordane	8.54E-04	mg/kg dry	4.5E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.8E-11	1.0E-10	mg/kg-day	5.0E-04	mg/kg-day	2.1E-07
				alpha-BHC	<4.00E-04>	mg/kg dry	2.1E-11	mg/kg-day	6.3E+00	(mg/kg-day)-1	1.3E-10	4.9E-11	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	<1.13E-03>	mg/kg dry	5.9E-11	mg/kg-day	1.6E+01	(mg/kg-day)-1	9.5E-10	1.4E-10	mg/kg-day	5.0E-05	mg/kg-day	2.8E-06
				Endosulfan II	<4.30E-04>	mg/kg dry	2.2E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-11	mg/kg-day	6.0E-03	mg/kg-day	8.7E-09
				Endrin aldehyde	<1.49E-03>	mg/kg dry	7.8E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-10	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	<4.90E-04>	mg/kg dry	2.6E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	2.8E-11	6.0E-11	mg/kg-day	3.0E-04	mg/kg-day	2.0E-07
				gamma-Chlordane	8.27E-04	mg/kg dry	4.3E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.6E-11	1.0E-10	mg/kg-day	5.0E-04	mg/kg-day	2.0E-07
				Heptachlor	<2.20E-04>	mg/kg dry	1.2E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	5.2E-11	2.7E-11	mg/kg-day	5.0E-04	mg/kg-day	5.4E-08
				Total PCBs	1.86E-02	mg/kg dry	1.3E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	6.5E-09	3.0E-09	mg/kg-day	2.0E-05	mg/kg-day	1.5E-04
				TBT	3.82E-03	mg/kg dry	2.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.4E-10	mg/kg-day	3.0E-04	mg/kg-day	1.8E-06
			Exp. Route Total								3.5E-06					8.1E-03
		Exposure Point Total									3.5E-06					8.1E-03
	Exposure Medium Total										3.5E-06					8.1E-03
	Fish Tissue	Shellfish in Western Bayside	Ingestion	Ag	5.87E-03	mg/kg wet	1.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-07	mg/kg-day	5.0E-03	mg/kg-day	9.1E-05
				As	2.97E+00	mg/kg wet	9.8E-05	mg/kg-day	9.5E+00	(mg/kg-day)-1	9.3E-04	2.3E-04	mg/kg-day	3.0E-04	mg/kg-day	7.6E-01
				Cd	2.67E-03	mg/kg wet	8.8E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	3.4E-08	2.1E-07	mg/kg-day	5.0E-04	mg/kg-day	4.1E-04
				Cr	2.37E+00	mg/kg wet	7.8E-05	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.5E-05	1.8E-04	mg/kg-day	3.0E-03	mg/kg-day	6.1E-02
				Cu	1.33E+00	mg/kg wet	4.4E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-04	mg/kg-day	3.7E-02	mg/kg-day	2.8E-03

Table 7.1.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk (a)	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value (a)	Units	Value	Units		Value	Units	Value	Units	
				Hg	1.68E-02	mg/kg wet	5.6E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-06	mg/kg-day	1.0E-04	mg/kg-day	1.3E-02
				Ni	4.70E-01	mg/kg wet	1.6E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-05	mg/kg-day	2.0E-02	mg/kg-day	1.8E-03
				Sb	3.10E-01	mg/kg wet	1.0E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-05	mg/kg-day	4.0E-04	mg/kg-day	6.0E-02
				Se	1.37E-01	mg/kg wet	4.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2.1E-03
				Zn	1.23E+01	mg/kg wet	4.1E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.5E-04	mg/kg-day	3.0E-01	mg/kg-day	3.2E-03
				Acenaphthene	2.21E-03	mg/kg wet	7.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	6.0E-02	mg/kg-day	2.8E-06
				Acenaphthylene	1.82E-03	mg/kg wet	6.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	4.61E-03	mg/kg wet	1.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-07	mg/kg-day	3.0E-01	mg/kg-day	1.2E-06
				Benzo(a)anthracene	1.19E-02	mg/kg wet	3.9E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.7E-07	9.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	1.96E-02	mg/kg wet	6.5E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	7.8E-06	1.5E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.07E-02	mg/kg wet	6.8E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	8.2E-07	1.6E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	5.83E-03	mg/kg wet	1.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.20E-02	mg/kg wet	4.0E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.8E-07	9.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-02	mg/kg wet	4.4E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	5.3E-08	1.0E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	1.61E-03	mg/kg wet	5.3E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.2E-07	1.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	3.90E-02	mg/kg wet	1.3E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-06	mg/kg-day	4.0E-02	mg/kg-day	7.5E-05
				Fluorene	1.46E-03	mg/kg wet	4.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-07	mg/kg-day	4.0E-02	mg/kg-day	2.8E-06
				Indeno(1,2,3-cd)pyrene	4.25E-03	mg/kg wet	1.4E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.7E-07	3.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	>3.36E-02<	mg/kg wet	1.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-06	mg/kg-day	4.0E-03	mg/kg-day	6.5E-04
				Naphthalene	7.05E-03	mg/kg wet	2.3E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.8E-08	5.4E-07	mg/kg-day	2.0E-02	mg/kg-day	2.7E-05
				Phenanthrene	2.22E-03	mg/kg wet	7.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.52E-02	mg/kg wet	2.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.0E-06	mg/kg-day	3.0E-02	mg/kg-day	1.7E-04
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	N/A	mg/kg wet	N/A	mg/kg-day	2.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	N/A	mg/kg wet	N/A	mg/kg-day	3.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	N/A	mg/kg wet	N/A	mg/kg-day	3.4E-01	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				4,4'-DDD	6.39E-04	mg/kg wet	2.1E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.1E-09	4.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.12E-03	mg/kg wet	3.7E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.3E-08	8.6E-08	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk (a)	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value (a)	Units	Value	Units		Value	Units	Value	Units	
				4,4'-DDT	1.19E-03	mg/kg wet	3.9E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.3E-08	9.2E-08	mg/kg-day	5.0E-04	mg/kg-day	1.8E-04
				alpha-Chlordane	8.93E-05	mg/kg wet	3.0E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	3.8E-09	6.9E-09	mg/kg-day	5.0E-04	mg/kg-day	1.4E-05
				alpha-BHC	>2.50E-04<	mg/kg wet	8.3E-09	mg/kg-day	6.3E+00	(mg/kg-day)-1	5.2E-08	1.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	1.22E-03	mg/kg wet	4.0E-08	mg/kg-day	1.6E+01	(mg/kg-day)-1	6.5E-07	9.4E-08	mg/kg-day	5.0E-05	mg/kg-day	1.9E-03
				Endosulfan II	>5.00E-04<	mg/kg wet	1.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.9E-08	mg/kg-day	6.0E-03	mg/kg-day	6.4E-06
				Endrin aldehyde	>1.00E-03<	mg/kg wet	3.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	>2.50E-04<	mg/kg wet	8.3E-09	mg/kg-day	1.1E+00	(mg/kg-day)-1	9.1E-09	1.9E-08	mg/kg-day	3.0E-04	mg/kg-day	6.4E-05
				gamma-Chlordane	7.66E-04	mg/kg wet	2.5E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	3.3E-08	5.9E-08	mg/kg-day	5.0E-04	mg/kg-day	1.2E-04
				Heptachlor	1.39E-04	mg/kg wet	4.6E-09	mg/kg-day	4.5E+00	(mg/kg-day)-1	2.1E-08	1.1E-08	mg/kg-day	5.0E-04	mg/kg-day	2.1E-05
				Total PCBs	4.24E-03	mg/kg wet	1.4E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	7.0E-07	3.3E-07	mg/kg-day	2.0E-05	mg/kg-day	1.6E-02
				TBT	>2.36E-03<	mg/kg wet	7.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	6.1E-04
			Exp. Route Total								9.5E-04					9.3E-01
		Exposure Point Total									9.5E-04					9.3E-01
		Forage Fish in Western Bayside	Ingestion	Ag	9.33E-04	mg/kg wet	6.2E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-06	mg/kg-day	5.0E-03	mg/kg-day	2.9E-04
				As	1.72E-01	mg/kg wet	1.1E-04	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.1E-03	2.7E-04	mg/kg-day	3.0E-04	mg/kg-day	8.8E-01
				Cd	5.39E-04	mg/kg wet	3.6E-07	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.4E-07	8.3E-07	mg/kg-day	5.0E-04	mg/kg-day	1.7E-03
				Cr	1.96E-01	mg/kg wet	1.3E-04	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.5E-05	3.0E-04	mg/kg-day	3.0E-03	mg/kg-day	1.0E-01
				Cu	3.65E-01	mg/kg wet	2.4E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.6E-04	mg/kg-day	3.7E-02	mg/kg-day	1.5E-02
				Hg	9.43E-03	mg/kg wet	6.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-05	mg/kg-day	1.0E-04	mg/kg-day	1.5E-01
				Ni	5.04E-02	mg/kg wet	3.3E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.8E-05	mg/kg-day	2.0E-02	mg/kg-day	3.9E-03
				Sb	9.78E-03	mg/kg wet	6.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-05	mg/kg-day	4.0E-04	mg/kg-day	3.8E-02
				Se	7.65E-02	mg/kg wet	5.1E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-04	mg/kg-day	5.0E-03	mg/kg-day	2.4E-02
				Zn	4.59E+00	mg/kg wet	3.0E-03	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.1E-03	mg/kg-day	3.0E-01	mg/kg-day	2.4E-02
				Acenaphthene	9.81E-04	mg/kg wet	6.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-06	mg/kg-day	6.0E-02	mg/kg-day	2.5E-05
				Acenaphthylene	2.38E-05	mg/kg wet	1.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	2.92E-04	mg/kg wet	1.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-07	mg/kg-day	3.0E-01	mg/kg-day	1.5E-06
				Benzo(a)anthracene	1.79E-04	mg/kg wet	1.2E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-07	2.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.40E-04	mg/kg wet	1.6E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.9E-06	3.7E-07	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk (a)	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value (a)	Units	Value	Units		Value	Units	Value	Units	
				Benzo(b)fluoranthene	2.45E-04	mg/kg wet	1.6E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.9E-07	3.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.34E-04	mg/kg wet	1.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	2.90E-04	mg/kg wet	1.9E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.3E-07	4.5E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	5.23E-04	mg/kg wet	3.5E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.2E-08	8.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	3.32E-05	mg/kg wet	2.2E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	9.0E-08	5.1E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.16E-03	mg/kg wet	7.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-06	mg/kg-day	4.0E-02	mg/kg-day	4.5E-05
				Fluorene	4.64E-04	mg/kg wet	3.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-07	mg/kg-day	4.0E-02	mg/kg-day	1.8E-05
				Indeno(1,2,3-cd)pyrene	1.80E-04	mg/kg wet	1.2E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-07	2.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	3.43E-05	mg/kg wet	2.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.3E-08	mg/kg-day	4.0E-03	mg/kg-day	1.3E-05
				Naphthalene	1.61E-04	mg/kg wet	1.1E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.3E-08	2.5E-07	mg/kg-day	2.0E-02	mg/kg-day	1.2E-05
				Phenanthrene	1.37E-03	mg/kg wet	9.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.1E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.64E-04	mg/kg wet	4.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-06	mg/kg-day	3.0E-02	mg/kg-day	3.4E-05
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	1.49E-06	mg/kg wet	9.9E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.4E-10	2.3E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	2.58E-05	mg/kg wet	1.7E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.8E-09	4.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.04E-05	mg/kg wet	6.8E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.3E-09	1.6E-08	mg/kg-day	5.0E-04	mg/kg-day	3.2E-05
				4,4'-DDD	1.46E-03	mg/kg wet	9.7E-07	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.3E-07	2.3E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.83E-03	mg/kg wet	1.9E-06	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.4E-07	4.4E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	3.09E-04	mg/kg wet	2.0E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.9E-08	4.8E-07	mg/kg-day	5.0E-04	mg/kg-day	9.5E-04
				alpha-Chlordane	3.02E-04	mg/kg wet	2.0E-07	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.6E-07	4.7E-07	mg/kg-day	5.0E-04	mg/kg-day	9.3E-04
				alpha-BHC	4.36E-06	mg/kg wet	2.9E-09	mg/kg-day	6.3E+00	(mg/kg-day)-1	1.8E-08	6.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	2.59E-04	mg/kg wet	1.7E-07	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.7E-06	4.0E-07	mg/kg-day	5.0E-05	mg/kg-day	8.0E-03
				Endosulfan II	3.91E-06	mg/kg wet	2.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.0E-09	mg/kg-day	6.0E-03	mg/kg-day	1.0E-06
				Endrin aldehyde	8.64E-06	mg/kg wet	5.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	6.32E-06	mg/kg wet	4.2E-09	mg/kg-day	1.1E+00	(mg/kg-day)-1	4.6E-09	9.8E-09	mg/kg-day	3.0E-04	mg/kg-day	3.3E-05
				gamma-Chlordane	9.78E-05	mg/kg wet	6.5E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	8.4E-08	1.5E-07	mg/kg-day	5.0E-04	mg/kg-day	3.0E-04
				Heptachlor	1.01E-06	mg/kg wet	6.7E-10	mg/kg-day	4.5E+00	(mg/kg-day)-1	3.0E-09	1.6E-09	mg/kg-day	5.0E-04	mg/kg-day	3.1E-06
				Total PCBs	1.26E-02	mg/kg wet	8.3E-06	mg/kg-day	5.0E+00	(mg/kg-day)-1	4.2E-05	1.9E-05	mg/kg-day	2.0E-05	mg/kg-day	9.7E-01
				TBT	4.80E-03	mg/kg wet	3.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.4E-06	mg/kg-day	3.0E-04	mg/kg-day	2.5E-02
			Exp. Route Total								1.1E-03					2.2E+00
		Exposure Point Total									1.1E-03					2.2E+00
	Exposure Medium Total										2.1E-03					3.2E+00
Medium Total											2.1E-03					3.2E+00
							Total of Receptor Risks Across All Media				2.1E-03	Total of Receptor Hazards Across All Media				3.2E+00

Table 7.2.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC Value	EPC Units	Cancer Intake/Exposure Concentration Value	Cancer Intake/Exposure Concentration Units	CSF/Unit Risk Value	CSF/Unit Risk Units	Cancer Risk	Non-Cancer Intake/Exposure Concentration Value	Non-Cancer Intake/Exposure Concentration Units	RfD/RfC Value	RfD/RfC Units	Hazard Quotient
Sediment	Sediment	Western Bayside	Combined (Ingestion and Dermal)	Ag	2.07E-01	mg/kg dry	1.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.0E-07	mg/kg-day	5.0E-03	mg/kg-day	4.0E-05
				As	5.77E+00	mg/kg dry	5.1E-07	mg/kg-day	9.5E+00	(mg/kg-day)-1	4.8E-06	5.9E-06	mg/kg-day	3.0E-04	mg/kg-day	2.0E-02
				Cd	1.38E-01	mg/kg dry	1.1E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	4.3E-09	1.3E-07	mg/kg-day	5.0E-04	mg/kg-day	2.6E-04
				Cr	7.55E+01	mg/kg dry	6.1E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.2E-06	7.2E-05	mg/kg-day	3.0E-03	mg/kg-day	2.4E-02
				Cu	2.52E+01	mg/kg dry	2.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.5E-05	mg/kg-day	3.7E-02	mg/kg-day	6.6E-04
				Hg	2.12E-01	mg/kg dry	1.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.1E-07	mg/kg-day	1.0E-04	mg/kg-day	2.1E-03
				Ni	4.58E+01	mg/kg dry	3.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-05	mg/kg-day	2.0E-02	mg/kg-day	2.2E-03
				Sb	9.78E+00	mg/kg dry	8.2E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.5E-06	mg/kg-day	4.0E-04	mg/kg-day	2.4E-02
				Se	2.22E-01	mg/kg dry	1.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-07	mg/kg-day	5.0E-03	mg/kg-day	4.3E-05
				Zn	7.12E+01	mg/kg dry	6.0E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.9E-05	mg/kg-day	3.0E-01	mg/kg-day	2.3E-04
				Acenaphthene	<3.70E-02>	mg/kg dry	4.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.0E-08	mg/kg-day	6.0E-02	mg/kg-day	8.3E-07
				Acenaphthylene	<1.70E-02>	mg/kg dry	2.0E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	6.09E-02	mg/kg dry	7.0E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.2E-08	mg/kg-day	3.0E-01	mg/kg-day	2.7E-07
				Benzo(a)anthracene	9.41E-02	mg/kg dry	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.3E-08	1.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	1.71E-01	mg/kg dry	2.0E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	2.4E-07	2.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	1.63E-01	mg/kg dry	1.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.3E-08	2.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.38E-01	mg/kg dry	1.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.12E-01	mg/kg dry	1.3E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.5E-08	1.5E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	1.34E-01	mg/kg dry	1.6E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.9E-09	1.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	5.53E-02	mg/kg dry	6.4E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.6E-08	7.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.69E-01	mg/kg dry	1.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-07	mg/kg-day	4.0E-02	mg/kg-day	5.7E-06
				Fluorene	<3.20E-02>	mg/kg dry	3.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.3E-08	mg/kg-day	4.0E-02	mg/kg-day	1.1E-06
				Indeno(1,2,3-cd)pyrene	1.38E-01	mg/kg dry	1.6E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.9E-08	1.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<7.80E-03>	mg/kg dry	9.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-08	mg/kg-day	4.0E-03	mg/kg-day	2.6E-06

Table 7.2.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Naphthalene	<2.20E-02>	mg/kg dry	2.5E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.1E-10	3.0E-08	mg/kg-day	2.0E-02	mg/kg-day	1.5E-06
				Phenanthrene	7.29E-02	mg/kg dry	8.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.95E-01	mg/kg dry	2.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-07	mg/kg-day	3.0E-02	mg/kg-day	8.8E-06
				Dibenzofuran	5.32E-03	mg/kg dry	6.2E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-09	mg/kg-day	2.0E-03	mg/kg-day	3.6E-06
				2,4'-DDD	3.64E-04	mg/kg dry	3.4E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	8.1E-12	3.9E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	9.94E-05	mg/kg dry	9.2E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.1E-12	1.1E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.50E-04	mg/kg dry	1.4E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.7E-12	1.6E-10	mg/kg-day	5.0E-04	mg/kg-day	3.2E-07
				4,4'-DDD	2.84E-03	mg/kg dry	2.6E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	6.3E-11	3.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.23E-03	mg/kg dry	2.1E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.0E-11	2.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.56E-03	mg/kg dry	2.4E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	8.1E-11	2.8E-09	mg/kg-day	5.0E-04	mg/kg-day	5.5E-06
				alpha-Chlordane	8.54E-04	mg/kg dry	7.9E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.0E-10	9.2E-10	mg/kg-day	5.0E-04	mg/kg-day	1.8E-06
				alpha-BHC	<4.00E-04>	mg/kg dry	3.7E-11	mg/kg-day	6.3E+00	(mg/kg-day)-1	2.3E-10	4.3E-10	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	<1.13E-03>	mg/kg dry	1.0E-10	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.7E-09	1.2E-09	mg/kg-day	5.0E-05	mg/kg-day	2.4E-05
				Endosulfan II	<4.30E-04>	mg/kg dry	4.0E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.7E-10	mg/kg-day	6.0E-03	mg/kg-day	7.8E-08
				Endrin aldehyde	<1.49E-03>	mg/kg dry	1.4E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	<4.90E-04>	mg/kg dry	4.5E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	5.0E-11	5.3E-10	mg/kg-day	3.0E-04	mg/kg-day	1.8E-06
				gamma-Chlordane	8.27E-04	mg/kg dry	7.7E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.0E-10	9.0E-10	mg/kg-day	5.0E-04	mg/kg-day	1.8E-06
				Heptachlor	<2.20E-04>	mg/kg dry	2.0E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	9.2E-11	2.4E-10	mg/kg-day	5.0E-04	mg/kg-day	4.8E-07
				Total PCBs	1.86E-02	mg/kg dry	2.2E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.1E-08	2.5E-08	mg/kg-day	2.0E-05	mg/kg-day	1.3E-03
				TBT	3.82E-03	mg/kg dry	4.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.6E-09	mg/kg-day	3.0E-04	mg/kg-day	1.5E-05
			Exp. Route Total								6.3E-06					7.4E-02
		Exposure Point Total									6.3E-06					7.4E-02
	Exposure Medium Total										6.3E-06					7.4E-02
	Fish Tissue	Forage Fish in Western Bayside	Ingestion	Ag	9.33E-04	mg/kg wet	5.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.8E-07	mg/kg-day	5.0E-03	mg/kg-day	1.4E-04
				As	1.72E-01	mg/kg wet	1.1E-05	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.0E-04	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4.2E-01
				Cd	5.39E-04	mg/kg wet	3.4E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.3E-08	4.0E-07	mg/kg-day	5.0E-04	mg/kg-day	7.9E-04
				Cr	1.96E-01	mg/kg wet	1.2E-05	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.3E-06	1.4E-04	mg/kg-day	3.0E-03	mg/kg-day	4.8E-02
				Cu	3.65E-01	mg/kg wet	2.3E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-04	mg/kg-day	3.7E-02	mg/kg-day	7.2E-03

Table 7.2.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Hg	9.43E-03	mg/kg wet	5.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.9E-06	mg/kg-day	1.0E-04	mg/kg-day	6.9E-02
				Ni	5.04E-02	mg/kg wet	3.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-05	mg/kg-day	2.0E-02	mg/kg-day	1.8E-03
				Sb	9.78E-03	mg/kg wet	6.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-06	mg/kg-day	4.0E-04	mg/kg-day	1.8E-02
				Se	7.65E-02	mg/kg wet	4.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.6E-05	mg/kg-day	5.0E-03	mg/kg-day	1.1E-02
				Zn	4.59E+00	mg/kg wet	2.9E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.4E-03	mg/kg-day	3.0E-01	mg/kg-day	1.1E-02
				Acenaphthene	9.81E-04	mg/kg wet	6.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-07	mg/kg-day	6.0E-02	mg/kg-day	1.2E-05
				Acenaphthylene	2.38E-05	mg/kg wet	1.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	2.92E-04	mg/kg wet	1.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.1E-07	mg/kg-day	3.0E-01	mg/kg-day	7.1E-07
				Benzo(a)anthracene	1.79E-04	mg/kg wet	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.3E-08	1.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.40E-04	mg/kg wet	1.5E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.8E-07	1.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.45E-04	mg/kg wet	1.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.8E-08	1.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.34E-04	mg/kg wet	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	2.90E-04	mg/kg wet	1.8E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.2E-08	2.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	5.23E-04	mg/kg wet	3.3E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.9E-09	3.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	3.32E-05	mg/kg wet	2.1E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	8.5E-09	2.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	1.16E-03	mg/kg wet	7.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.5E-07	mg/kg-day	4.0E-02	mg/kg-day	2.1E-05
				Fluorene	4.64E-04	mg/kg wet	2.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.4E-07	mg/kg-day	4.0E-02	mg/kg-day	8.5E-06
				Indeno(1,2,3-cd)pyrene	1.80E-04	mg/kg wet	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-08	1.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	3.43E-05	mg/kg wet	2.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.5E-08	mg/kg-day	4.0E-03	mg/kg-day	6.3E-06
				Naphthalene	1.61E-04	mg/kg wet	1.0E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.2E-09	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	5.9E-06
				Phenanthrene	1.37E-03	mg/kg wet	8.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	6.64E-04	mg/kg wet	4.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.9E-07	mg/kg-day	3.0E-02	mg/kg-day	1.6E-05
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-03	mg/kg-day	N/A
				2,4'-DDD	1.49E-06	mg/kg wet	9.4E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.3E-11	1.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	2.58E-05	mg/kg wet	1.6E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.5E-10	1.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.04E-05	mg/kg wet	6.5E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.2E-10	7.6E-09	mg/kg-day	5.0E-04	mg/kg-day	1.5E-05
				4,4'-DDD	1.46E-03	mg/kg wet	9.2E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.2E-08	1.1E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	2.83E-03	mg/kg wet	1.8E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.0E-08	2.1E-06	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				4,4'-DDT	3.09E-04	mg/kg wet	1.9E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.6E-09	2.3E-07	mg/kg-day	5.0E-04	mg/kg-day	4.5E-04
				alpha-Chlordane	3.02E-04	mg/kg wet	1.9E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.5E-08	2.2E-07	mg/kg-day	5.0E-04	mg/kg-day	4.4E-04
				alpha-BHC	4.36E-06	mg/kg wet	2.7E-10	mg/kg-day	6.3E+00	(mg/kg-day)-1	1.7E-09	3.2E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Dieldrin	2.59E-04	mg/kg wet	1.6E-08	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.6E-07	1.9E-07	mg/kg-day	5.0E-05	mg/kg-day	3.8E-03
				Endosulfan II	3.91E-06	mg/kg wet	2.5E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.9E-09	mg/kg-day	6.0E-03	mg/kg-day	4.8E-07
				Endrin aldehyde	8.64E-06	mg/kg wet	5.4E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.3E-09	mg/kg-day	N/A	mg/kg-day	N/A
				gamma-BHC	6.32E-06	mg/kg wet	4.0E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	4.4E-10	4.6E-09	mg/kg-day	3.0E-04	mg/kg-day	1.5E-05
				gamma-Chlordane	9.78E-05	mg/kg wet	6.2E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	8.0E-09	7.2E-08	mg/kg-day	5.0E-04	mg/kg-day	1.4E-04
				Heptachlor	1.01E-06	mg/kg wet	6.4E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	2.9E-10	7.4E-10	mg/kg-day	5.0E-04	mg/kg-day	1.5E-06
				Total PCBs	1.26E-02	mg/kg wet	7.9E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	4.0E-06	9.2E-06	mg/kg-day	2.0E-05	mg/kg-day	4.6E-01
				TBT	4.80E-03	mg/kg wet	3.0E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.2E-02
			Exp. Route Total								1.1E-04					1.1E+00
		Exposure Point Total									1.1E-04					1.1E+00
	Exposure Medium Total										1.1E-04					1.1E+00
Medium Total											1.2E-04					1.1E+00
							Total of Receptor Risks Across All Media				1.2E-04	Total of Receptor Hazards Across All Media				1.1E+00

Table 7.3.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	Combined (Ingestion and Dermal)	Ag	2.07E-01	mg/kg dry	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				As	5.77E+00	mg/kg dry	7.3E-07	mg/kg-day	9.5E+00	(mg/kg-day)-1	6.9E-06	N/A	N/A	N/A	N/A	N/A
				Cd	1.38E-01	mg/kg dry	1.6E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	6.1E-09	N/A	N/A	N/A	N/A	N/A
				Cr	7.55E+01	mg/kg dry	8.8E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.7E-06	N/A	N/A	N/A	N/A	N/A
				Cu	2.52E+01	mg/kg dry	3.0E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Hg	2.12E-01	mg/kg dry	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Ni	4.58E+01	mg/kg dry	5.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Sb	9.78E+00	mg/kg dry	1.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Se	2.22E-01	mg/kg dry	2.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Zn	7.12E+01	mg/kg dry	8.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Acenaphthene	<3.70E-02>	mg/kg dry	6.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Acenaphthylene	<1.70E-02>	mg/kg dry	2.9E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Anthracene	6.09E-02	mg/kg dry	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)anthracene	9.41E-02	mg/kg dry	1.6E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.9E-08	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	1.71E-01	mg/kg dry	2.9E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	3.5E-07	N/A	N/A	N/A	N/A	N/A
				Benzo(b)fluoranthene	1.63E-01	mg/kg dry	2.8E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.4E-08	N/A	N/A	N/A	N/A	N/A
				Benzo(g,h,i)perylene	1.38E-01	mg/kg dry	2.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(k)fluoranthene	1.12E-01	mg/kg dry	1.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.3E-08	N/A	N/A	N/A	N/A	N/A
				Chrysene	1.34E-01	mg/kg dry	2.3E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.8E-09	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	5.53E-02	mg/kg dry	9.5E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	3.9E-08	N/A	N/A	N/A	N/A	N/A
				Fluoranthene	1.69E-01	mg/kg dry	2.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Fluorene	<3.20E-02>	mg/kg dry	5.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1.38E-01	mg/kg dry	2.4E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.8E-08	N/A	N/A	N/A	N/A	N/A
				2-Methylnaphthalene	<7.80E-03>	mg/kg dry	1.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Naphthalene	<2.20E-02>	mg/kg dry	3.8E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.5E-10	N/A	N/A	N/A	N/A	N/A
				Phenanthrene	7.29E-02	mg/kg dry	1.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Pyrene	1.95E-01	mg/kg dry	3.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A

Table 7.3.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Dibenzofuran	5.32E-03	mg/kg dry	9.1E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				2,4'-DDD	3.64E-04	mg/kg dry	4.9E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.2E-11	N/A	N/A	N/A	N/A	N/A
				2,4'-DDE	9.94E-05	mg/kg dry	1.3E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.5E-12	N/A	N/A	N/A	N/A	N/A
				2,4'-DDT	1.50E-04	mg/kg dry	2.0E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.9E-12	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	2.84E-03	mg/kg dry	3.8E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	9.2E-11	N/A	N/A	N/A	N/A	N/A
				4,4'-DDE	2.23E-03	mg/kg dry	3.0E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.0E-10	N/A	N/A	N/A	N/A	N/A
				4,4'-DDT	2.56E-03	mg/kg dry	3.4E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.2E-10	N/A	N/A	N/A	N/A	N/A
				alpha-Chlordane	8.54E-04	mg/kg dry	1.1E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.5E-10	N/A	N/A	N/A	N/A	N/A
				alpha-BHC	<4.00E-04>	mg/kg dry	5.4E-11	mg/kg-day	6.3E+00	(mg/kg-day)-1	3.4E-10	N/A	N/A	N/A	N/A	N/A
				Dieldrin	<1.13E-03>	mg/kg dry	1.5E-10	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.4E-09	N/A	N/A	N/A	N/A	N/A
				Endosulfan II	<4.30E-04>	mg/kg dry	5.8E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Endrin aldehyde	<1.49E-03>	mg/kg dry	2.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				gamma-BHC	<4.90E-04>	mg/kg dry	6.6E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	7.3E-11	N/A	N/A	N/A	N/A	N/A
				gamma-Chlordane	8.27E-04	mg/kg dry	1.1E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.4E-10	N/A	N/A	N/A	N/A	N/A
				Heptachlor	<2.20E-04>	mg/kg dry	3.0E-11	mg/kg-day	4.5E+00	(mg/kg-day)-1	1.3E-10	N/A	N/A	N/A	N/A	N/A
				Total PCBs	1.86E-02	mg/kg dry	3.2E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.6E-08	N/A	N/A	N/A	N/A	N/A
				TBT	3.82E-03	mg/kg dry	5.8E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
			Exp. Route Total								9.1E-06					N/A
		Exposure Point Total									9.1E-06					N/A
	Exposure Medium Total										9.1E-06					N/A
	Fish Tissue	Forage Fish in Western Bayside	Ingestion	Ag	9.33E-04	mg/kg wet	5.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				As	1.72E-01	mg/kg wet	1.0E-04	mg/kg-day	9.5E+00	(mg/kg-day)-1	9.6E-04	N/A	N/A	N/A	N/A	N/A
				Cd	5.39E-04	mg/kg wet	3.2E-07	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.2E-07	N/A	N/A	N/A	N/A	N/A
				Cr	1.96E-01	mg/kg wet	1.2E-04	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.2E-05	N/A	N/A	N/A	N/A	N/A
				Cu	3.65E-01	mg/kg wet	2.2E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Hg	9.43E-03	mg/kg wet	5.6E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Ni	5.04E-02	mg/kg wet	3.0E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Sb	9.78E-03	mg/kg wet	5.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Se	7.65E-02	mg/kg wet	4.5E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Zn	4.59E+00	mg/kg wet	2.7E-03	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Acenaphthene	9.81E-04	mg/kg wet	5.8E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Acenaphthylene	2.38E-05	mg/kg wet	1.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A

Table 7.3.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Anthracene	2.92E-04	mg/kg wet	1.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)anthracene	1.79E-04	mg/kg wet	1.1E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.3E-07	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	2.40E-04	mg/kg wet	1.4E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.7E-06	N/A	N/A	N/A	N/A	N/A
				Benzo(b)fluoranthene	2.45E-04	mg/kg wet	1.4E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.7E-07	N/A	N/A	N/A	N/A	N/A
				Benzo(g,h,i)perylene	2.34E-04	mg/kg wet	1.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(k)fluoranthene	2.90E-04	mg/kg wet	1.7E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.1E-07	N/A	N/A	N/A	N/A	N/A
				Chrysene	5.23E-04	mg/kg wet	3.1E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.7E-08	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3.32E-05	mg/kg wet	2.0E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	8.0E-08	N/A	N/A	N/A	N/A	N/A
				Fluoranthene	1.16E-03	mg/kg wet	6.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Fluorene	4.64E-04	mg/kg wet	2.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1.80E-04	mg/kg wet	1.1E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.3E-07	N/A	N/A	N/A	N/A	N/A
				2-Methylnaphthalene	3.43E-05	mg/kg wet	2.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Naphthalene	1.61E-04	mg/kg wet	9.5E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.1E-08	N/A	N/A	N/A	N/A	N/A
				Phenanthrene	1.37E-03	mg/kg wet	8.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Pyrene	6.64E-04	mg/kg wet	3.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenzofuran	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				2,4'-DDD	1.49E-06	mg/kg wet	8.8E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.1E-10	N/A	N/A	N/A	N/A	N/A
				2,4'-DDE	2.58E-05	mg/kg wet	1.5E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.2E-09	N/A	N/A	N/A	N/A	N/A
				2,4'-DDT	1.04E-05	mg/kg wet	6.1E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.1E-09	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	1.46E-03	mg/kg wet	8.6E-07	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.1E-07	N/A	N/A	N/A	N/A	N/A
				4,4'-DDE	2.83E-03	mg/kg wet	1.7E-06	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.7E-07	N/A	N/A	N/A	N/A	N/A
				4,4'-DDT	3.09E-04	mg/kg wet	1.8E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.2E-08	N/A	N/A	N/A	N/A	N/A
				alpha-Chlordane	3.02E-04	mg/kg wet	1.8E-07	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.3E-07	N/A	N/A	N/A	N/A	N/A
				alpha-BHC	4.36E-06	mg/kg wet	2.6E-09	mg/kg-day	6.3E+00	(mg/kg-day)-1	1.6E-08	N/A	N/A	N/A	N/A	N/A
				Dieldrin	2.59E-04	mg/kg wet	1.5E-07	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.5E-06	N/A	N/A	N/A	N/A	N/A
				Endosulfan II	3.91E-06	mg/kg wet	2.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				Endrin aldehyde	8.64E-06	mg/kg wet	5.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A
				gamma-BHC	6.32E-06	mg/kg wet	3.7E-09	mg/kg-day	1.1E+00	(mg/kg-day)-1	4.1E-09	N/A	N/A	N/A	N/A	N/A
				gamma-Chlordane	9.78E-05	mg/kg wet	5.8E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	7.5E-08	N/A	N/A	N/A	N/A	N/A
				Heptachlor	1.01E-06	mg/kg wet	6.0E-10	mg/kg-day	4.5E+00	(mg/kg-day)-1	2.7E-09	N/A	N/A	N/A	N/A	N/A
				Total PCBs	1.26E-02	mg/kg wet	7.4E-06	mg/kg-day	5.0E+00	(mg/kg-day)-1	3.7E-05	N/A	N/A	N/A	N/A	N/A
				TBT	4.80E-03	mg/kg wet	2.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	N/A	N/A	N/A	N/A

Table 7.3.RME. Calculation of Chemical Cancer Risks and Non-Cancer Hazards Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Exp. Route Total								1.0E-03					N/A
		Exposure Point Total									1.0E-03					N/A
	Exposure Medium Total										1.0E-03					N/A
Medium Total											1.0E-03					N/A
								Total of Receptor Risks Across All Media			1.0E-03	Total of Receptor Hazards Across All Media				N/A

Table 8.1.CT. Calculation of Radiation Cancer Risks Central Tendency for Western Bayside

Scenario Timeframe:	Current/Future
Receptor Population:	Fisher
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Radionuclide of Potential Concern	EPC		Risk Calculation Approach	Cancer Risk Calculations				
					Value	Units		Intake/Activity		CSF		Cancer Risk
								Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	External	Radium-226	1.4E-01	pCi/g	U.S. EPA, 2006	5.8E-03	pCi/g per year	8.5E-06	risk/yr per pCi/g soil	5.0E-08
				Radium-228	5.7E-01	pCi/g	U.S. EPA, 2006	2.5E-02	pCi/g per year	4.5E-06	risk/yr per pCi/g soil	1.1E-07
			Exp. Route Total									1.6E-07
			Ingestion	Radium-226	1.4E-01	pCi/g	U.S. EPA, 2006	4.0E-01	pCi	7.3E-10	risk/pCi	2.9E-10
				Radium-228	5.7E-01	pCi/g	U.S. EPA, 2006	1.7E+00	pCi	2.3E-09	risk/pCi	3.8E-09
			Exp. Route Total									4.1E-09
		Exposure Point Total										1.6E-07
	Exposure Medium Total											1.6E-07
Medium Total												1.6E-07

Total of Receptor Risks Across All Media: 1.6E-07

U.S. EPA. 2006. User's Guide: Radionuclide Carcinogenicity. March. Available at http://www.epa.gov/radiation/heast/userguid.htm.

Table 8.1.RME. Calculation of Radiation Cancer Risks Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe:	Current/Future
Receptor Population:	Fisher
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Radionuclide of Potential Concern	EPC		Risk Calculation Approach	Cancer Risk Calculations				
								Intake/Activity		CSF		Cancer Risk
					Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Western Bayside	External	Radium-226	1.4E-01	pCi/g	U.S. EPA, 2006	3.9E-02	pCi/g per year	8.5E-06	risk/yr per pCi/g soil	3.3E-07
				Radium-228	5.7E-01	pCi/g	U.S. EPA, 2006	1.6E-01	pCi/g per year	4.5E-06	risk/yr per pCi/g soil	7.4E-07
			Exp. Route Total									1.1E-06
			Ingestion	Radium-226	1.4E-01	pCi/g	U.S. EPA, 2006	1.1E+01	pCi	7.3E-10	risk/pCi	7.7E-09
				Radium-228	5.7E-01	pCi/g	U.S. EPA, 2006	4.4E+01	pCi	2.3E-09	risk/pCi	1.0E-07
			Exp. Route Total									1.1E-07
		Exposure Point Total										1.2E-06
	Exposure Medium Total											1.2E-06
Medium Total												1.2E-06

U.S. EPA. 2006. User's Guide: Radionuclide Carcinogenicity. March. Available at http://www.epa.gov/radiation/heast/userguid.htm.

Total of Receptor Risks Across All Media	1.2E-06

Table 9.1.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	5.69E-07	N/A	N/A	5.69E-07
			As	1.11E-07	N/A	N/A	N/A	1.11E-07	liver/kidney/bladder	3.03E-04	N/A	N/A	3.03E-04
			Cd	8.66E-11	N/A	N/A	N/A	8.66E-11	kidney	3.55E-06	N/A	N/A	3.55E-06
			Cr	2.35E-08	N/A	N/A	N/A	2.35E-08	liver/kidney	3.20E-04	N/A	N/A	3.20E-04
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	9.34E-06	N/A	N/A	9.34E-06
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.92E-05	N/A	N/A	2.92E-05
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	3.15E-05	N/A	N/A	3.15E-05
			Sb	N/A	N/A	N/A	N/A	N/A	blood	3.36E-04	N/A	N/A	3.36E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	6.10E-07	N/A	N/A	6.10E-07
			Zn	N/A	N/A	N/A	N/A	N/A	blood	3.26E-06	N/A	N/A	3.26E-06
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.72E-08	N/A	N/A	1.72E-08
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	5.67E-09	N/A	N/A	5.67E-09
			Benzo(a)anthracene	4.06E-10	N/A	N/A	N/A	4.06E-10	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7.38E-09	N/A	N/A	N/A	7.38E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	7.04E-10	N/A	N/A	N/A	7.04E-10	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4.81E-10	N/A	N/A	N/A	4.81E-10	N/A	N/A	N/A	N/A	N/A
			Chrysene	5.79E-11	N/A	N/A	N/A	5.79E-11	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	8.14E-10	N/A	N/A	N/A	8.14E-10	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	1.18E-07	N/A	N/A	1.18E-07
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	2.24E-08	N/A	N/A	2.24E-08
			Indeno(1,2,3-cd)pyrene	5.97E-10	N/A	N/A	N/A	5.97E-10	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	5.45E-08	N/A	N/A	5.45E-08
			Naphthalene	9.49E-12	N/A	N/A	N/A	9.49E-12	liver/CNS	3.07E-08	N/A	N/A	3.07E-08
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9.1.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.82E-07	N/A	N/A	1.82E-07
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	7.44E-08	N/A	N/A	7.44E-08
			2,4'-DDD	2.00E-13	N/A	N/A	N/A	2.00E-13	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	7.73E-14	N/A	N/A	N/A	7.73E-14	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	1.17E-13	N/A	N/A	N/A	1.17E-13	CNS/reproductive/liver	5.34E-09	N/A	N/A	5.34E-09
			4,4'-DDD	1.56E-12	N/A	N/A	N/A	1.56E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.74E-12	N/A	N/A	N/A	1.74E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.99E-12	N/A	N/A	N/A	1.99E-12	CNS/reproductive/liver	9.10E-08	N/A	N/A	9.10E-08
			alpha-Chlordane	2.54E-12	N/A	N/A	N/A	2.54E-12	liver	3.04E-08	N/A	N/A	3.04E-08
			alpha-BHC	5.77E-12	N/A	N/A	N/A	5.77E-12	N/A	N/A	N/A	N/A	N/A
			Dieldrin	4.14E-11	N/A	N/A	N/A	4.14E-11	liver/CNS	4.02E-07	N/A	N/A	4.02E-07
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.28E-09	N/A	N/A	1.28E-09
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	1.23E-12	N/A	N/A	N/A	1.23E-12	liver/kidney	2.91E-08	N/A	N/A	2.91E-08
			gamma-Chlordane	2.46E-12	N/A	N/A	N/A	2.46E-12	liver	2.94E-08	N/A	N/A	2.94E-08
			Heptachlor	2.27E-12	N/A	N/A	N/A	2.27E-12	liver	7.83E-09	N/A	N/A	7.83E-09
			Total PCBs	3.35E-10	N/A	N/A	N/A	3.35E-10	CNS/immune system/liver	2.60E-05	N/A	N/A	2.60E-05
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.91E-07	N/A	N/A	2.91E-07
			Chemical Total	1.4E-07	N/A	N/A	N/A	1.4E-07	N/A	1.1E-03	N/A	N/A	1.1E-03
		Exposure Point Total						1.4E-07					1.1E-03
	Exposure Medium Total							1.4E-07					1.1E-03
	Fish Tissue	Shellfish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	6.70E-06	N/A	N/A	6.70E-06
			As	2.06E-05	N/A	N/A	N/A	2.06E-05	liver/kidney/bladder	5.65E-02	N/A	N/A	5.65E-02
			Cd	7.45E-10	N/A	N/A	N/A	7.45E-10	kidney	3.05E-05	N/A	N/A	3.05E-05
			Cr	3.31E-07	N/A	N/A	N/A	3.31E-07	liver/kidney	4.51E-03	N/A	N/A	4.51E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	2.05E-04	N/A	N/A	2.05E-04
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	9.60E-04	N/A	N/A	9.60E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	1.34E-04	N/A	N/A	1.34E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	4.43E-03	N/A	N/A	4.43E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.57E-04	N/A	N/A	1.57E-04

Table 9.1.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.34E-04	N/A	N/A	2.34E-04
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	2.10E-07	N/A	N/A	2.10E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	8.79E-08	N/A	N/A	8.79E-08
			Benzo(a)anthracene	1.05E-08	N/A	N/A	N/A	1.05E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.73E-07	N/A	N/A	N/A	1.73E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.83E-08	N/A	N/A	N/A	1.83E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1.06E-08	N/A	N/A	N/A	1.06E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.18E-09	N/A	N/A	N/A	1.18E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.84E-09	N/A	N/A	N/A	4.84E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	5.57E-06	N/A	N/A	5.57E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	2.09E-07	N/A	N/A	2.09E-07
			Indeno(1,2,3-cd)pyrene	3.75E-09	N/A	N/A	N/A	3.75E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	4.79E-05	N/A	N/A	4.79E-05
			Naphthalene	6.21E-10	N/A	N/A	N/A	6.21E-10	liver/CNS	2.01E-06	N/A	N/A	2.01E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.24E-05	N/A	N/A	1.24E-05
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	N/A	N/A	N/A	N/A	N/A	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	1.13E-10	N/A	N/A	N/A	1.13E-10	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	2.80E-10	N/A	N/A	N/A	2.80E-10	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	2.97E-10	N/A	N/A	N/A	2.97E-10	CNS/reproductive/liver	1.36E-05	N/A	N/A	1.36E-05
			alpha-Chlordane	8.53E-11	N/A	N/A	N/A	8.53E-11	liver	1.02E-06	N/A	N/A	1.02E-06
			alpha-BHC	1.16E-09	N/A	N/A	N/A	1.16E-09	N/A	N/A	N/A	N/A	N/A
			Dieldrin	1.44E-08	N/A	N/A	N/A	1.44E-08	liver/CNS	1.40E-04	N/A	N/A	1.40E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	4.76E-07	N/A	N/A	4.76E-07
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9.1.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk: Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Non-Carcinogenic Hazard Quotient: Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			gamma-BHC	2.02E-10	N/A	N/A	N/A	2.02E-10	liver/kidney	4.76E-06	N/A	N/A	4.76E-06
			gamma-Chlordane	7.32E-10	N/A	N/A	N/A	7.32E-10	liver	8.75E-06	N/A	N/A	8.75E-06
			Heptachlor	4.60E-10	N/A	N/A	N/A	4.60E-10	liver	1.59E-06	N/A	N/A	1.59E-06
			Total PCBs	1.56E-08	N/A	N/A	N/A	1.56E-08	CNS/immune system/liver	1.21E-03	N/A	N/A	1.21E-03
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	4.49E-05	N/A	N/A	4.49E-05
			Chemical Total	2.1E-05	N/A	N/A	N/A	2.1E-05	N/A	6.9E-02	N/A	N/A	6.9E-02
		Exposure Point Total						2.1E-05					6.9E-02
		Forage Fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	2.13E-05	N/A	N/A	2.13E-05
			As	2.39E-05	N/A	N/A	N/A	2.39E-05	liver/kidney/bladder	6.55E-02	N/A	N/A	6.55E-02
			Cd	3.01E-09	N/A	N/A	N/A	3.01E-09	kidney	1.23E-04	N/A	N/A	1.23E-04
			Cr	5.48E-07	N/A	N/A	N/A	5.48E-07	liver/kidney	7.48E-03	N/A	N/A	7.48E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.13E-03	N/A	N/A	1.13E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.08E-02	N/A	N/A	1.08E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.88E-04	N/A	N/A	2.88E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.79E-03	N/A	N/A	2.79E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.75E-03	N/A	N/A	1.75E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	1.75E-03	N/A	N/A	1.75E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.87E-06	N/A	N/A	1.87E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.11E-07	N/A	N/A	1.11E-07
			Benzo(a)anthracene	3.15E-09	N/A	N/A	N/A	3.15E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	4.22E-08	N/A	N/A	N/A	4.22E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	4.32E-09	N/A	N/A	N/A	4.32E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	5.12E-09	N/A	N/A	N/A	5.12E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	9.23E-10	N/A	N/A	N/A	9.23E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.00E-09	N/A	N/A	N/A	2.00E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	3.32E-06	N/A	N/A	3.32E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.33E-06	N/A	N/A	1.33E-06
			Indeno(1,2,3-cd)pyrene	3.17E-09	N/A	N/A	N/A	3.17E-09	N/A	N/A	N/A	N/A	N/A

Table 9.1.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	9.81E-07	N/A	N/A	9.81E-07
			Naphthalene	2.83E-10	N/A	N/A	N/A	2.83E-10	liver/CNS	9.18E-07	N/A	N/A	9.18E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	2.53E-06	N/A	N/A	2.53E-06
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	5.26E-12	N/A	N/A	N/A	5.26E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	1.29E-10	N/A	N/A	N/A	1.29E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	5.17E-11	N/A	N/A	N/A	5.17E-11	CNS/reproductive/liver	2.37E-06	N/A	N/A	2.37E-06
			4,4'-DDD	5.15E-09	N/A	N/A	N/A	5.15E-09	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.41E-08	N/A	N/A	N/A	1.41E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.54E-09	N/A	N/A	N/A	1.54E-09	CNS/reproductive/liver	7.06E-05	N/A	N/A	7.06E-05
			alpha-Chlordane	5.76E-09	N/A	N/A	N/A	5.76E-09	liver	6.90E-05	N/A	N/A	6.90E-05
			alpha-BHC	4.04E-10	N/A	N/A	N/A	4.04E-10	N/A	N/A	N/A	N/A	N/A
			Dieldrin	6.09E-08	N/A	N/A	N/A	6.09E-08	liver/CNS	5.93E-04	N/A	N/A	5.93E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	7.45E-08	N/A	N/A	7.45E-08
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	1.02E-10	N/A	N/A	N/A	1.02E-10	liver/kidney	2.41E-06	N/A	N/A	2.41E-06
			gamma-Chlordane	1.87E-09	N/A	N/A	N/A	1.87E-09	liver	2.24E-05	N/A	N/A	2.24E-05
			Heptachlor	6.69E-11	N/A	N/A	N/A	6.69E-11	liver	2.31E-07	N/A	N/A	2.31E-07
			Total PCBs	9.23E-07	N/A	N/A	N/A	9.23E-07	CNS/immune system/liver	7.18E-02	N/A	N/A	7.18E-02
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.83E-03	N/A	N/A	1.83E-03
			Chemical Total	2.6E-05	N/A	N/A	N/A	2.6E-05	N/A	1.7E-01	N/A	N/A	1.7E-01
		Exposure Point Total						2.6E-05					1.7E-01
	Exposure Medium Total							4.7E-05					2.3E-01
Medium Total								4.7E-05					2.4E-01
Receptor Total							Receptor Risk Total	4.7E-05				Receptor HI Total	2.4E-01

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 9.2.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	5.20E-06	N/A	N/A	5.20E-06
			As	6.48E-07	N/A	N/A	N/A	6.48E-07	liver/kidney/bladder	2.67E-03	N/A	N/A	2.67E-03
			Cd	5.38E-10	N/A	N/A	N/A	5.38E-10	kidney	3.30E-05	N/A	N/A	3.30E-05
			Cr	1.46E-07	N/A	N/A	N/A	1.46E-07	liver/kidney	2.99E-03	N/A	N/A	2.99E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	8.53E-05	N/A	N/A	8.53E-05
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.66E-04	N/A	N/A	2.66E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.87E-04	N/A	N/A	2.87E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	3.06E-03	N/A	N/A	3.06E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	5.57E-06	N/A	N/A	5.57E-06
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.97E-05	N/A	N/A	2.97E-05
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.35E-07	N/A	N/A	1.35E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	4.43E-08	N/A	N/A	4.43E-08
			Benzo(a)anthracene	2.11E-09	N/A	N/A	N/A	2.11E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	3.84E-08	N/A	N/A	N/A	3.84E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	3.67E-09	N/A	N/A	N/A	3.67E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.51E-09	N/A	N/A	N/A	2.51E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	3.02E-10	N/A	N/A	N/A	3.02E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.24E-09	N/A	N/A	N/A	4.24E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	9.21E-07	N/A	N/A	9.21E-07
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.75E-07	N/A	N/A	1.75E-07
			Indeno(1,2,3-cd)pyrene	3.11E-09	N/A	N/A	N/A	3.11E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	4.26E-07	N/A	N/A	4.26E-07
			Naphthalene	4.94E-11	N/A	N/A	N/A	4.94E-11	liver/CNS	2.40E-07	N/A	N/A	2.40E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9.2.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.42E-06	N/A	N/A	1.42E-06
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	5.81E-07	N/A	N/A	5.81E-07
			2,4'-DDD	1.14E-12	N/A	N/A	N/A	1.14E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	4.40E-13	N/A	N/A	N/A	4.40E-13	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	6.64E-13	N/A	N/A	N/A	6.64E-13	CNS/reproductive/liver	4.56E-08	N/A	N/A	4.56E-08
			4,4'-DDD	8.87E-12	N/A	N/A	N/A	8.87E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	9.88E-12	N/A	N/A	N/A	9.88E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.13E-11	N/A	N/A	N/A	1.13E-11	CNS/reproductive/liver	7.77E-07	N/A	N/A	7.77E-07
			alpha-Chlordane	1.45E-11	N/A	N/A	N/A	1.45E-11	liver	2.60E-07	N/A	N/A	2.60E-07
			alpha-BHC	3.28E-11	N/A	N/A	N/A	3.28E-11	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.35E-10	N/A	N/A	N/A	2.35E-10	liver/CNS	3.43E-06	N/A	N/A	3.43E-06
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.09E-08	N/A	N/A	1.09E-08
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	7.02E-12	N/A	N/A	N/A	7.02E-12	liver/kidney	2.48E-07	N/A	N/A	2.48E-07
			gamma-Chlordane	1.40E-11	N/A	N/A	N/A	1.40E-11	liver	2.51E-07	N/A	N/A	2.51E-07
			Heptachlor	1.29E-11	N/A	N/A	N/A	1.29E-11	liver	6.69E-08	N/A	N/A	6.69E-08
			Total PCBs	1.75E-09	N/A	N/A	N/A	1.75E-09	CNS/immune system/liver	2.04E-04	N/A	N/A	2.04E-04
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.36E-06	N/A	N/A	2.36E-06
			Chemical Total	8.5E-07	N/A	N/A	N/A	8.5E-07	N/A	9.6E-03	N/A	N/A	9.6E-03
		Exposure Point Total						8.5E-07					9.6E-03
	Exposure Medium Total							8.5E-07					9.6E-03
	Fish Tissue	Forage Fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	3.48E-05	N/A	N/A	3.48E-05
			As	2.60E-05	N/A	N/A	N/A	2.60E-05	liver/kidney/bladder	1.07E-01	N/A	N/A	1.07E-01
			Cd	3.28E-09	N/A	N/A	N/A	3.28E-09	kidney	2.01E-04	N/A	N/A	2.01E-04
			Cr	5.97E-07	N/A	N/A	N/A	5.97E-07	liver/kidney	1.22E-02	N/A	N/A	1.22E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.84E-03	N/A	N/A	1.84E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.76E-02	N/A	N/A	1.76E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	4.71E-04	N/A	N/A	4.71E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	4.56E-03	N/A	N/A	4.56E-03

Table 9.2.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Se	N/A	N/A	N/A	N/A	N/A	N/A	2.86E-03	N/A	N/A	2.86E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.86E-03	N/A	N/A	2.86E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	3.05E-06	N/A	N/A	3.05E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.82E-07	N/A	N/A	1.82E-07
			Benzo(a)anthracene	3.43E-09	N/A	N/A	N/A	3.43E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	4.60E-08	N/A	N/A	N/A	4.60E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	4.70E-09	N/A	N/A	N/A	4.70E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	5.57E-09	N/A	N/A	N/A	5.57E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.00E-09	N/A	N/A	N/A	1.00E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.17E-09	N/A	N/A	N/A	2.17E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	5.43E-06	N/A	N/A	5.43E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	2.17E-06	N/A	N/A	2.17E-06
			Indeno(1,2,3-cd)pyrene	3.45E-09	N/A	N/A	N/A	3.45E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	1.60E-06	N/A	N/A	1.60E-06
			Naphthalene	3.08E-10	N/A	N/A	N/A	3.08E-10	liver/CNS	1.50E-06	N/A	N/A	1.50E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	4.13E-06	N/A	N/A	4.13E-06
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	5.73E-12	N/A	N/A	N/A	5.73E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	1.40E-10	N/A	N/A	N/A	1.40E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	5.63E-11	N/A	N/A	N/A	5.63E-11	CNS/reproductive/liver	3.87E-06	N/A	N/A	3.87E-06
			4,4'-DDD	5.61E-09	N/A	N/A	N/A	5.61E-09	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.54E-08	N/A	N/A	N/A	1.54E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.68E-09	N/A	N/A	N/A	1.68E-09	CNS/reproductive/liver	1.15E-04	N/A	N/A	1.15E-04
			alpha-Chlordane	6.28E-09	N/A	N/A	N/A	6.28E-09	liver	1.13E-04	N/A	N/A	1.13E-04
			alpha-BHC	4.39E-10	N/A	N/A	N/A	4.39E-10	N/A	N/A	N/A	N/A	N/A
			Dieldrin	6.64E-08	N/A	N/A	N/A	6.64E-08	liver/CNS	9.68E-04	N/A	N/A	9.68E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.22E-07	N/A	N/A	1.22E-07

Table 9.2.CT. Summary of Receptor Risks and Hazards for COPCs Central Tendency for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	1.11E-10	N/A	N/A	N/A	1.11E-10	liver/kidney	3.93E-06	N/A	N/A	3.93E-06
			gamma-Chlordane	2.04E-09	N/A	N/A	N/A	2.04E-09	liver	3.65E-05	N/A	N/A	3.65E-05
			Heptachlor	7.29E-11	N/A	N/A	N/A	7.29E-11	liver	3.78E-07	N/A	N/A	3.78E-07
			Total PCBs	1.01E-06	N/A	N/A	N/A	1.01E-06	CNS/immune system/liver	1.17E-01	N/A	N/A	1.17E-01
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.99E-03	N/A	N/A	2.99E-03
			Chemical Total	2.8E-05	N/A	N/A	N/A	2.8E-05	N/A	2.7E-01	N/A	N/A	2.7E-01
		Exposure Point Total						2.8E-05					2.7E-01
	Exposure Medium Total							2.8E-05					2.7E-01
Medium Total								2.9E-05					2.8E-01
Receptor Total							Receptor Risk Total	2.9E-05				Receptor HI Total	2.8E-01

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 9.1.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	4.39E-06	N/A	N/A	4.39E-06
			As	2.66E-06	N/A	N/A	N/A	2.66E-06	liver/kidney/bladder	2.19E-03	N/A	N/A	2.19E-03
			Cd	2.30E-09	N/A	N/A	N/A	2.30E-09	kidney	2.83E-05	N/A	N/A	2.83E-05
			Cr	6.25E-07	N/A	N/A	N/A	6.25E-07	liver/kidney	2.56E-03	N/A	N/A	2.56E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	7.20E-05	N/A	N/A	7.20E-05
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.25E-04	N/A	N/A	2.25E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.43E-04	N/A	N/A	2.43E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.59E-03	N/A	N/A	2.59E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	4.70E-06	N/A	N/A	4.70E-06
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.51E-05	N/A	N/A	2.51E-05
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.00E-07	N/A	N/A	1.00E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	3.30E-08	N/A	N/A	3.30E-08
			Benzo(a)anthracene	7.87E-09	N/A	N/A	N/A	7.87E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.43E-07	N/A	N/A	N/A	1.43E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.37E-08	N/A	N/A	N/A	1.37E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	9.34E-09	N/A	N/A	N/A	9.34E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.12E-09	N/A	N/A	N/A	1.12E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1.58E-08	N/A	N/A	N/A	1.58E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	6.86E-07	N/A	N/A	6.86E-07
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.30E-07	N/A	N/A	1.30E-07
			Indeno(1,2,3-cd)pyrene	1.16E-08	N/A	N/A	N/A	1.16E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	3.17E-07	N/A	N/A	3.17E-07
			Naphthalene	1.84E-10	N/A	N/A	N/A	1.84E-10	liver/CNS	1.79E-07	N/A	N/A	1.79E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.06E-06	N/A	N/A	1.06E-06
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	4.33E-07	N/A	N/A	4.33E-07
			2,4'-DDD	4.57E-12	N/A	N/A	N/A	4.57E-12	N/A	N/A	N/A	N/A	N/A

Table 9.1.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			2,4'-DDE	1.77E-12	N/A	N/A	N/A	1.77E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	2.67E-12	N/A	N/A	N/A	2.67E-12	CNS/reproductive/liver	3.66E-08	N/A	N/A	3.66E-08
			4,4'-DDD	3.56E-11	N/A	N/A	N/A	3.56E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	3.97E-11	N/A	N/A	N/A	3.97E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	4.55E-11	N/A	N/A	N/A	4.55E-11	CNS/reproductive/liver	6.24E-07	N/A	N/A	6.24E-07
			alpha-Chlordane	5.81E-11	N/A	N/A	N/A	5.81E-11	liver	2.08E-07	N/A	N/A	2.08E-07
			alpha-BHC	1.32E-10	N/A	N/A	N/A	1.32E-10	N/A	N/A	N/A	N/A	N/A
			Dieldrin	9.46E-10	N/A	N/A	N/A	9.46E-10	liver/CNS	2.76E-06	N/A	N/A	2.76E-06
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	8.75E-09	N/A	N/A	8.75E-09
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	2.82E-11	N/A	N/A	N/A	2.82E-11	liver/kidney	1.99E-07	N/A	N/A	1.99E-07
			gamma-Chlordane	5.62E-11	N/A	N/A	N/A	5.62E-11	liver	2.02E-07	N/A	N/A	2.02E-07
			Heptachlor	5.18E-11	N/A	N/A	N/A	5.18E-11	liver	5.37E-08	N/A	N/A	5.37E-08
			Total PCBs	6.50E-09	N/A	N/A	N/A	6.50E-09	CNS/immune system/liver	1.52E-04	N/A	N/A	1.52E-04
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.81E-06	N/A	N/A	1.81E-06
			Chemical Total	3.5E-06	N/A	N/A	N/A	3.5E-06	N/A	8.1E-03	N/A	N/A	8.1E-03
		Exposure Point Total						3.5E-06					8.1E-03
	Exposure Medium Total							3.5E-06					8.1E-03
	Fish Tissue	Shellfish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	9.05E-05	N/A	N/A	9.05E-05
			As	9.27E-04	N/A	N/A	N/A	9.27E-04	liver/kidney/bladder	7.63E-01	N/A	N/A	7.63E-01
			Cd	3.35E-08	N/A	N/A	N/A	3.35E-08	kidney	4.12E-04	N/A	N/A	4.12E-04
			Cr	1.49E-05	N/A	N/A	N/A	1.49E-05	liver/kidney	6.09E-02	N/A	N/A	6.09E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	2.77E-03	N/A	N/A	2.77E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.30E-02	N/A	N/A	1.30E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	1.81E-03	N/A	N/A	1.81E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	5.98E-02	N/A	N/A	5.98E-02
			Se	N/A	N/A	N/A	N/A	N/A	N/A	2.12E-03	N/A	N/A	2.12E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	3.16E-03	N/A	N/A	3.16E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	2.84E-06	N/A	N/A	2.84E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.19E-06	N/A	N/A	1.19E-06
			Benzo(a)anthracene	4.71E-07	N/A	N/A	N/A	4.71E-07	N/A	N/A	N/A	N/A	N/A

Table 9.1.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Benzo(a)pyrene	7.77E-06	N/A	N/A	N/A	7.77E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	8.21E-07	N/A	N/A	N/A	8.21E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4.77E-07	N/A	N/A	N/A	4.77E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	5.31E-08	N/A	N/A	N/A	5.31E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.18E-07	N/A	N/A	N/A	2.18E-07	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	7.52E-05	N/A	N/A	7.52E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	2.82E-06	N/A	N/A	2.82E-06
			Indeno(1,2,3-cd)pyrene	1.69E-07	N/A	N/A	N/A	1.69E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	6.47E-04	N/A	N/A	6.47E-04
			Naphthalene	2.80E-08	N/A	N/A	N/A	2.80E-08	liver/CNS	2.72E-05	N/A	N/A	2.72E-05
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.68E-04	N/A	N/A	1.68E-04
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	N/A	N/A	N/A	N/A	N/A	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	5.07E-09	N/A	N/A	N/A	5.07E-09	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.26E-08	N/A	N/A	N/A	1.26E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.34E-08	N/A	N/A	N/A	1.34E-08	CNS/reproductive/liver	1.83E-04	N/A	N/A	1.83E-04
			alpha-Chlordane	3.84E-09	N/A	N/A	N/A	3.84E-09	liver	1.38E-05	N/A	N/A	1.38E-05
			alpha-BHC	5.20E-08	N/A	N/A	N/A	5.20E-08	N/A	N/A	N/A	N/A	N/A
			Dieldrin	6.47E-07	N/A	N/A	N/A	6.47E-07	liver/CNS	1.89E-03	N/A	N/A	1.89E-03
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	6.43E-06	N/A	N/A	6.43E-06
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	9.08E-09	N/A	N/A	N/A	9.08E-09	liver/kidney	6.42E-05	N/A	N/A	6.42E-05
			gamma-Chlordane	3.29E-08	N/A	N/A	N/A	3.29E-08	liver	1.18E-04	N/A	N/A	1.18E-04
			Heptachlor	2.07E-08	N/A	N/A	N/A	2.07E-08	liver	2.15E-05	N/A	N/A	2.15E-05
			Total PCBs	7.01E-07	N/A	N/A	N/A	7.01E-07	CNS/immune system/liver	1.63E-02	N/A	N/A	1.63E-02
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	6.07E-04	N/A	N/A	6.07E-04
			Chemical Total	9.5E-04	N/A	N/A	N/A	9.5E-04	N/A	9.3E-01	N/A	N/A	9.3E-01
		Exposure Point Total						9.5E-04					9.3E-01

Table 9.1.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
		Forage Fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	2.88E-04	N/A	N/A	2.88E-04
			As	1.07E-03	N/A	N/A	N/A	1.07E-03	liver/kidney/bladder	8.85E-01	N/A	N/A	8.85E-01
			Cd	1.36E-07	N/A	N/A	N/A	1.36E-07	kidney	1.66E-03	N/A	N/A	1.66E-03
			Cr	2.47E-05	N/A	N/A	N/A	2.47E-05	liver/kidney	1.01E-01	N/A	N/A	1.01E-01
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.52E-02	N/A	N/A	1.52E-02
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.45E-01	N/A	N/A	1.45E-01
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	3.89E-03	N/A	N/A	3.89E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	3.77E-02	N/A	N/A	3.77E-02
			Se	N/A	N/A	N/A	N/A	N/A	N/A	2.36E-02	N/A	N/A	2.36E-02
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.36E-02	N/A	N/A	2.36E-02
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	2.52E-05	N/A	N/A	2.52E-05
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.50E-06	N/A	N/A	1.50E-06
			Benzo(a)anthracene	1.42E-07	N/A	N/A	N/A	1.42E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.90E-06	N/A	N/A	N/A	1.90E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.94E-07	N/A	N/A	N/A	1.94E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.30E-07	N/A	N/A	N/A	2.30E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	4.15E-08	N/A	N/A	N/A	4.15E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	8.99E-08	N/A	N/A	N/A	8.99E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	4.49E-05	N/A	N/A	4.49E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.79E-05	N/A	N/A	1.79E-05
			Indeno(1,2,3-cd)pyrene	1.43E-07	N/A	N/A	N/A	1.43E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	1.32E-05	N/A	N/A	1.32E-05
			Naphthalene	1.27E-08	N/A	N/A	N/A	1.27E-08	liver/CNS	1.24E-05	N/A	N/A	1.24E-05
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	3.41E-05	N/A	N/A	3.41E-05
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	2.37E-10	N/A	N/A	N/A	2.37E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	5.79E-09	N/A	N/A	N/A	5.79E-09	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	2.33E-09	N/A	N/A	N/A	2.33E-09	CNS/reproductive/liver	3.20E-05	N/A	N/A	3.20E-05
			4,4'-DDD	2.32E-07	N/A	N/A	N/A	2.32E-07	N/A	N/A	N/A	N/A	N/A

Table 9.1.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b) Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Non-Carcinogenic Hazard Quotient Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			4,4'-DDE	6.36E-07	N/A	N/A	N/A	6.36E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	6.94E-08	N/A	N/A	N/A	6.94E-08	CNS/reproductive/liver	9.53E-04	N/A	N/A	9.53E-04
			alpha-Chlordane	2.59E-07	N/A	N/A	N/A	2.59E-07	liver	9.31E-04	N/A	N/A	9.31E-04
			alpha-BHC	1.82E-08	N/A	N/A	N/A	1.82E-08	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.74E-06	N/A	N/A	N/A	2.74E-06	liver/CNS	8.00E-03	N/A	N/A	8.00E-03
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.01E-06	N/A	N/A	1.01E-06
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	4.60E-09	N/A	N/A	N/A	4.60E-09	liver/kidney	3.25E-05	N/A	N/A	3.25E-05
			gamma-Chlordane	8.41E-08	N/A	N/A	N/A	8.41E-08	liver	3.02E-04	N/A	N/A	3.02E-04
			Heptachlor	3.01E-09	N/A	N/A	N/A	3.01E-09	liver	3.12E-06	N/A	N/A	3.12E-06
			Total PCBs	4.16E-05	N/A	N/A	N/A	4.16E-05	CNS/immune system/liver	9.70E-01	N/A	N/A	9.70E-01
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.47E-02	N/A	N/A	2.47E-02
			Chemical Total	1.1E-03	N/A	N/A	N/A	1.1E-03	N/A	2.2E+00	N/A	N/A	2.2E+00
		Exposure Point Total						1.1E-03					2.2E+00
	Exposure Medium Total							2.1E-03					3.2E+00
Medium Total								2.1E-03					3.2E+00
Receptor Total							Receptor Risk Total	2.1E-03				Receptor HI Total	3.2E+00

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

(b) RME cancer risks are based on age-adjusted exposure factors.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 9.2.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	4.05E-05	N/A	N/A	4.05E-05
			As	4.81E-06	N/A	N/A	N/A	4.81E-06	liver/kidney/bladder	1.98E-02	N/A	N/A	1.98E-02
			Cd	4.29E-09	N/A	N/A	N/A	4.29E-09	kidney	2.63E-04	N/A	N/A	2.63E-04
			Cr	1.17E-06	N/A	N/A	N/A	1.17E-06	liver/kidney	2.39E-02	N/A	N/A	2.39E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	6.64E-04	N/A	N/A	6.64E-04
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.07E-03	N/A	N/A	2.07E-03
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.24E-03	N/A	N/A	2.24E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.39E-02	N/A	N/A	2.39E-02
			Se	N/A	N/A	N/A	N/A	N/A	N/A	4.34E-05	N/A	N/A	4.34E-05
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.32E-04	N/A	N/A	2.32E-04
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	8.32E-07	N/A	N/A	8.32E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	2.74E-07	N/A	N/A	2.74E-07
			Benzo(a)anthracene	1.31E-08	N/A	N/A	N/A	1.31E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.37E-07	N/A	N/A	N/A	2.37E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	2.27E-08	N/A	N/A	N/A	2.27E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1.55E-08	N/A	N/A	N/A	1.55E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.86E-09	N/A	N/A	N/A	1.86E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.62E-08	N/A	N/A	N/A	2.62E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	5.68E-06	N/A	N/A	5.68E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.08E-06	N/A	N/A	1.08E-06
			Indeno(1,2,3-cd)pyrene	1.92E-08	N/A	N/A	N/A	1.92E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	2.63E-06	N/A	N/A	2.63E-06
			Naphthalene	3.05E-10	N/A	N/A	N/A	3.05E-10	liver/CNS	1.48E-06	N/A	N/A	1.48E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	8.78E-06	N/A	N/A	8.78E-06

Table 9.2.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	3.59E-06	N/A	N/A	3.59E-06
			2,4'-DDD	8.10E-12	N/A	N/A	N/A	8.10E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	3.14E-12	N/A	N/A	N/A	3.14E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	4.73E-12	N/A	N/A	N/A	4.73E-12	CNS/reproductive/liver	3.25E-07	N/A	N/A	3.25E-07
			4,4'-DDD	6.32E-11	N/A	N/A	N/A	6.32E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	7.04E-11	N/A	N/A	N/A	7.04E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	8.07E-11	N/A	N/A	N/A	8.07E-11	CNS/reproductive/liver	5.54E-06	N/A	N/A	5.54E-06
			alpha-Chlordane	1.03E-10	N/A	N/A	N/A	1.03E-10	liver	1.85E-06	N/A	N/A	1.85E-06
			alpha-BHC	2.34E-10	N/A	N/A	N/A	2.34E-10	N/A	N/A	N/A	N/A	N/A
			Dieldrin	1.68E-09	N/A	N/A	N/A	1.68E-09	liver/CNS	2.45E-05	N/A	N/A	2.45E-05
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	7.76E-08	N/A	N/A	7.76E-08
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	5.00E-11	N/A	N/A	N/A	5.00E-11	liver/kidney	1.77E-06	N/A	N/A	1.77E-06
			gamma-Chlordane	9.98E-11	N/A	N/A	N/A	9.98E-11	liver	1.79E-06	N/A	N/A	1.79E-06
			Heptachlor	9.19E-11	N/A	N/A	N/A	9.19E-11	liver	4.76E-07	N/A	N/A	4.76E-07
			Total PCBs	1.08E-08	N/A	N/A	N/A	1.08E-08	CNS/immune system/liver	1.26E-03	N/A	N/A	1.26E-03
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.55E-05	N/A	N/A	1.55E-05
			Chemical Total	6.3E-06	N/A	N/A	N/A	6.3E-06	N/A	7.4E-02	N/A	N/A	7.4E-02
		Exposure Point Total						6.3E-06					7.4E-02
	Exposure Medium Total							6.3E-06					7.4E-02
	Fish Tissue	Forage Fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	1.37E-04	N/A	N/A	1.37E-04
			As	1.02E-04	N/A	N/A	N/A	1.02E-04	liver/kidney/bladder	4.20E-01	N/A	N/A	4.20E-01
			Cd	1.29E-08	N/A	N/A	N/A	1.29E-08	kidney	7.91E-04	N/A	N/A	7.91E-04
			Cr	2.34E-06	N/A	N/A	N/A	2.34E-06	liver/kidney	4.80E-02	N/A	N/A	4.80E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	7.23E-03	N/A	N/A	7.23E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	6.91E-02	N/A	N/A	6.91E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	1.85E-03	N/A	N/A	1.85E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	1.79E-02	N/A	N/A	1.79E-02
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.12E-02	N/A	N/A	1.12E-02
			Zn	N/A	N/A	N/A	N/A	N/A	blood	1.12E-02	N/A	N/A	1.12E-02
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.20E-05	N/A	N/A	1.20E-05
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9.2.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	7.14E-07	N/A	N/A	7.14E-07
			Benzo(a)anthracene	1.35E-08	N/A	N/A	N/A	1.35E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.81E-07	N/A	N/A	N/A	1.81E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.85E-08	N/A	N/A	N/A	1.85E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.19E-08	N/A	N/A	N/A	2.19E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	3.95E-09	N/A	N/A	N/A	3.95E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	8.54E-09	N/A	N/A	N/A	8.54E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	2.13E-05	N/A	N/A	2.13E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	8.51E-06	N/A	N/A	8.51E-06
			Indeno(1,2,3-cd)pyrene	1.36E-08	N/A	N/A	N/A	1.36E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	6.29E-06	N/A	N/A	6.29E-06
			Naphthalene	1.21E-09	N/A	N/A	N/A	1.21E-09	liver/CNS	5.89E-06	N/A	N/A	5.89E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.62E-05	N/A	N/A	1.62E-05
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	2.25E-11	N/A	N/A	N/A	2.25E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	5.51E-10	N/A	N/A	N/A	5.51E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	2.21E-10	N/A	N/A	N/A	2.21E-10	CNS/reproductive/liver	1.52E-05	N/A	N/A	1.52E-05
			4,4'-DDD	2.20E-08	N/A	N/A	N/A	2.20E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	6.04E-08	N/A	N/A	N/A	6.04E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	6.60E-09	N/A	N/A	N/A	6.60E-09	CNS/reproductive/liver	4.53E-04	N/A	N/A	4.53E-04
			alpha-Chlordane	2.47E-08	N/A	N/A	N/A	2.47E-08	liver	4.42E-04	N/A	N/A	4.42E-04
			alpha-BHC	1.73E-09	N/A	N/A	N/A	1.73E-09	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.61E-07	N/A	N/A	N/A	2.61E-07	liver/CNS	3.80E-03	N/A	N/A	3.80E-03
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	4.78E-07	N/A	N/A	4.78E-07
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	4.37E-10	N/A	N/A	N/A	4.37E-10	liver/kidney	1.55E-05	N/A	N/A	1.55E-05
			gamma-Chlordane	8.00E-09	N/A	N/A	N/A	8.00E-09	liver	1.44E-04	N/A	N/A	1.44E-04
			Heptachlor	2.86E-10	N/A	N/A	N/A	2.86E-10	liver	1.48E-06	N/A	N/A	1.48E-06
			Total PCBs	3.95E-06	N/A	N/A	N/A	3.95E-06	CNS/immune system/liver	4.61E-01	N/A	N/A	4.61E-01
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.17E-02	N/A	N/A	1.17E-02

Table 9.2.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Chemical Total	1.1E-04	N/A	N/A	N/A	1.1E-04	N/A	1.1E+00	N/A	N/A	1.1E+00
		Exposure Point Total						1.1E-04					1.1E+00
	Exposure Medium Total							1.1E-04					1.1E+00
Medium Total								1.2E-04					1.1E+00
Receptor Total							Receptor Risk Total	1.2E-04				Receptor HI Total	1.1E+00

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 9.3.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			As	6.94E-06	N/A	N/A	N/A	6.94E-06	liver/kidney/bladder	N/A	N/A	N/A	N/A
			Cd	6.13E-09	N/A	N/A	N/A	6.13E-09	kidney	N/A	N/A	N/A	N/A
			Cr	1.67E-06	N/A	N/A	N/A	1.67E-06	liver/kidney	N/A	N/A	N/A	N/A
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	N/A	N/A	N/A	N/A
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	N/A	N/A	N/A	N/A
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	N/A	N/A	N/A	N/A
			Sb	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Se	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Zn	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	1.94E-08	N/A	N/A	N/A	1.94E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	3.52E-07	N/A	N/A	N/A	3.52E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	3.36E-08	N/A	N/A	N/A	3.36E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.30E-08	N/A	N/A	N/A	2.30E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	2.76E-09	N/A	N/A	N/A	2.76E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	3.88E-08	N/A	N/A	N/A	3.88E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	2.85E-08	N/A	N/A	N/A	2.85E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	4.52E-10	N/A	N/A	N/A	4.52E-10	liver/CNS	N/A	N/A	N/A	N/A
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	1.18E-11	N/A	N/A	N/A	1.18E-11	N/A	N/A	N/A	N/A	N/A

Table 9.3.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			2,4'-DDE	4.55E-12	N/A	N/A	N/A	4.55E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	6.86E-12	N/A	N/A	N/A	6.86E-12	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	9.17E-11	N/A	N/A	N/A	9.17E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.02E-10	N/A	N/A	N/A	1.02E-10	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.17E-10	N/A	N/A	N/A	1.17E-10	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			alpha-Chlordane	1.49E-10	N/A	N/A	N/A	1.49E-10	liver	N/A	N/A	N/A	N/A
			alpha-BHC	3.39E-10	N/A	N/A	N/A	3.39E-10	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.43E-09	N/A	N/A	N/A	2.43E-09	liver/CNS	N/A	N/A	N/A	N/A
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	7.26E-11	N/A	N/A	N/A	7.26E-11	liver/kidney	N/A	N/A	N/A	N/A
			gamma-Chlordane	1.45E-10	N/A	N/A	N/A	1.45E-10	liver	N/A	N/A	N/A	N/A
			Heptachlor	1.33E-10	N/A	N/A	N/A	1.33E-10	liver	N/A	N/A	N/A	N/A
			Total PCBs	1.60E-08	N/A	N/A	N/A	1.60E-08	CNS/immune system/liver	N/A	N/A	N/A	N/A
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	N/A	N/A	N/A	N/A
			Chemical Total	9.1E-06	N/A	N/A	N/A	9.1E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						9.1E-06					N/A
	Exposure Medium Total							9.1E-06					N/A
	Fish Tissue	Forage Fish in Western Bayside	Ag	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			As	9.62E-04	N/A	N/A	N/A	9.62E-04	liver/kidney/bladder	N/A	N/A	N/A	N/A
			Cd	1.21E-07	N/A	N/A	N/A	1.21E-07	kidney	N/A	N/A	N/A	N/A
			Cr	2.21E-05	N/A	N/A	N/A	2.21E-05	liver/kidney	N/A	N/A	N/A	N/A
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	N/A	N/A	N/A	N/A
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	N/A	N/A	N/A	N/A
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	N/A	N/A	N/A	N/A
			Sb	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Se	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Zn	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	1.27E-07	N/A	N/A	N/A	1.27E-07	N/A	N/A	N/A	N/A	N/A

Table 9.3.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Benzo(a)pyrene	1.70E-06	N/A	N/A	N/A	1.70E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.74E-07	N/A	N/A	N/A	1.74E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.06E-07	N/A	N/A	N/A	2.06E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	3.72E-08	N/A	N/A	N/A	3.72E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	8.04E-08	N/A	N/A	N/A	8.04E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	1.28E-07	N/A	N/A	N/A	1.28E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	1.14E-08	N/A	N/A	N/A	1.14E-08	liver/CNS	N/A	N/A	N/A	N/A
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			Dibenzofuran	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	2.12E-10	N/A	N/A	N/A	2.12E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	5.19E-09	N/A	N/A	N/A	5.19E-09	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	2.08E-09	N/A	N/A	N/A	2.08E-09	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	2.07E-07	N/A	N/A	N/A	2.07E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	5.69E-07	N/A	N/A	N/A	5.69E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	6.22E-08	N/A	N/A	N/A	6.22E-08	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			alpha-Chlordane	2.32E-07	N/A	N/A	N/A	2.32E-07	liver	N/A	N/A	N/A	N/A
			alpha-BHC	1.63E-08	N/A	N/A	N/A	1.63E-08	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.45E-06	N/A	N/A	N/A	2.45E-06	liver/CNS	N/A	N/A	N/A	N/A
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			gamma-BHC	4.12E-09	N/A	N/A	N/A	4.12E-09	liver/kidney	N/A	N/A	N/A	N/A
			gamma-Chlordane	7.53E-08	N/A	N/A	N/A	7.53E-08	liver	N/A	N/A	N/A	N/A
			Heptachlor	2.70E-09	N/A	N/A	N/A	2.70E-09	liver	N/A	N/A	N/A	N/A
			Total PCBs	3.72E-05	N/A	N/A	N/A	3.72E-05	CNS/immune system/liver	N/A	N/A	N/A	N/A
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	N/A	N/A	N/A	N/A

Table 9.3.RME. Summary of Receptor Risks and Hazards for COPCs Reasonable Maximum Exposure for Western Bayside, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Chemical Total	1.0E-03	N/A	N/A	N/A	1.0E-03	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.0E-03					N/A
	Exposure Medium Total							1.0E-03					N/A
Medium Total								1.0E-03					N/A
Receptor Total							Receptor Risk Total	1.0E-03				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 10.1.CT. Risk Summary Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Fish Tissue	Shellfish in Western Bayside	As	2.1E-05	N/A	N/A	N/A	2.1E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	2.1E-05	N/A	N/A	N/A	2.1E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						2.1E-05					N/A
		Forage Fish in Western Bayside	As	2.4E-05	N/A	N/A	N/A	2.4E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	2.4E-05	N/A	N/A	N/A	2.4E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						2.4E-05					N/A
	Exposure Medium Total							4.4E-05					N/A
Medium Total								4.4E-05					N/A
Receptor Total							Receptor Risk Total	4.4E-05				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 10.2.CT. Risk Summary Central Tendency for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Fish Tissue	Forage Fish in Western Bayside	As	2.60E-05	N/A	N/A	N/A	2.60E-05	N/A	N/A	N/A	N/A	N/A
			Total PCBs	1.01E-06	N/A	N/A	N/A	1.01E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	2.6E-05	N/A	N/A	N/A	2.7E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						2.7E-05					N/A
	Exposure Medium Total							2.7E-05					N/A
Medium Total								2.7E-05					N/A
Receptor Total							Receptor Risk Total	2.7E-05				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 10.1.RME. Risk Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	As	2.7E-06	N/A	N/A	N/A	2.7E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	2.7E-06	N/A	N/A	N/A	2.7E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						2.7E-06					N/A
	Exposure Medium Total							2.7E-06					N/A
	Fish Tissue	Shellfish in Western Bayside	As	9.3E-04	N/A	N/A	N/A	9.3E-04	N/A	N/A	N/A	N/A	N/A
			Cr	1.5E-05	N/A	N/A	N/A	1.5E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7.8E-06	N/A	N/A	N/A	7.8E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	9.5E-04	N/A	N/A	N/A	9.5E-04	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						9.5E-04					N/A
		Forage Fish in Western Bayside	As	1.1E-03	N/A	N/A	N/A	1.1E-03	N/A	N/A	N/A	N/A	N/A
			Cr	2.5E-05	N/A	N/A	N/A	2.5E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.9E-06	N/A	N/A	N/A	1.9E-06	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.7E-06	N/A	N/A	N/A	2.7E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	4.2E-05	N/A	N/A	N/A	4.2E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.1E-03	N/A	N/A	N/A	1.1E-03	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.1E-03					N/A
	Exposure Medium Total							2.1E-03					N/A
Medium Total								2.1E-03					N/A
Receptor Total							Receptor Risk Total	2.1E-03				Receptor HI Total	N/A

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

(b) RME cancer risks are based on age-adjusted exposure factors.

Table 10.2.RME. Risk Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	As	4.81E-06	N/A	N/A	N/A	4.81E-06	N/A	N/A	N/A	N/A	N/A
			Cr	1.17E-06	N/A	N/A	N/A	1.17E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	6.0E-06	N/A	N/A	N/A	6.0E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						6.0E-06					N/A
	Exposure Medium Total							6.0E-06					N/A
		Forage Fish in Western Bayside	As	1.02E-04	N/A	N/A	N/A	1.02E-04	N/A	N/A	N/A	N/A	N/A
			Cr	2.34E-06	N/A	N/A	N/A	2.34E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	3.95E-06	N/A	N/A	N/A	3.95E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.08E-04	N/A	N/A	N/A	1.08E-04	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.1E-04					N/A
	Exposure Medium Total							1.1E-04					N/A
Medium Total								1.1E-04					N/A
Receptor Total							Receptor Risk Total	1.1E-04				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 10.3.RME. Risk Summary Reasonable Maximum Exposure for Western Bayside

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Western Bayside	As	6.94E-06	N/A	N/A	N/A	6.94E-06	N/A	N/A	N/A	N/A	N/A
			Cr	1.67E-06	N/A	N/A	N/A	1.67E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	8.6E-06	N/A	N/A	N/A	8.6E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						8.6E-06					N/A
	Exposure Medium Total							8.6E-06					N/A
		Forage Fish in Western Bayside	As	9.62E-04	N/A	N/A	N/A	9.62E-04	N/A	N/A	N/A	N/A	N/A
			Cr	2.21E-05	N/A	N/A	N/A	2.21E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.70E-06	N/A	N/A	N/A	1.70E-06	N/A	N/A	N/A	N/A	N/A
			Dieldrin	2.45E-06	N/A	N/A	N/A	2.45E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	3.72E-05	N/A	N/A	N/A	3.72E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.03E-03	N/A	N/A	N/A	1.03E-03	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.0E-03					N/A
	Exposure Medium Total							1.0E-03					N/A
Medium Total								1.0E-03					N/A
Receptor Total							Receptor Risk Total	1.0E-03				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

D.3 Risk Assessment Guidance for Superfund (RAGS), Part D Planning Tables for Breakwater Beach

Table 0: Site Risk Assessment Identification Information for Breakwater Beach

Site Name/OU:	Breakwater Beach, Alameda Point, CA
Region:	9
EPA ID Number:	
State:	CA
Status:	
Federal Facility (Y/N):	Y
EPA Project Manager:	
EPA Risk Assessor:	
Prepared by (Organization):	Battelle
Prepared for (Organization):	Department of the Navy Base Realignment and Closure Program Management Office West
Document Title:	Site Inspection Report Western Bayside/Breakwater Beach
Document Date:	August 2007
Probabilistic Risk Assessment (Y/N):	Y
Comments:	

Table 1. Section of Exposure Pathways for Breakwater Beach

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Sediment	Sediment	Western Bayside	Fisher	Adult	Combined (Ingestion and Dermal)	Quant	Exposure to contaminants in sediment during shellfish collection
					Child	Combined (Ingestion and Dermal)	Quant	Exposure to contaminants in sediment during shellfish collection
		Fish Tissue	Shellfish from Western Bayside	Fisher	Adult	Ingestion	Quant	Possibility of contaminants in shellfish exposed to sediments in Oakland Inner Harbor
					Child	Ingestion	None	Children are assumed not to ingest shellfish
			Forage fish from Western Bayside	Fisher	Adult	Ingestion	Quant	Possibility of contaminants in forage fish exposed to sediments in Oakland Inner Harbor
					Child	Ingestion	Quant	Possibility of contaminants in forage fish exposed to sediments in Oakland Inner Harbor
	Surface Water	Surface Water	Western Bayside	Recreational User	Adult	Ingestion	None	Water is not a primary exposure medium due to rapid dilution
						Dermal	None	Water is not a primary exposure medium due to rapid dilution
					Child	Ingestion	None	Water is not a primary exposure medium due to rapid dilution
						Dermal	None	Water is not a primary exposure medium due to rapid dilution

Table 2.1. Occurrence, Distribution, And Selection Of Chemicals Of Potential Concern for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
Breakwater Beach	7440-22-4	Ag	[7.50E-02]	2.50E+00	mg/kg dry	BB007	45	0.075-0.475	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-38-2	As	[1.10E+00]	1.19E+01	mg/kg dry	BB005	94	1.1-1.1	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-43-9	Cd	[2.50E-02]	4.56E-01	mg/kg dry	BB004	39	0.025-0.18	N/A	N/A	N/A	N/A	N/A	Y	D
	18540-29-9	Cr	2.27E+01	1.53E+02	mg/kg dry	BW05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-50-8	Cu	5.50E+00	7.72E+01	mg/kg dry	BB004	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7439-97-6	Hg	4.00E-02	6.60E-01	mg/kg dry	BB008	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-02-0	Ni	1.55E+01	9.90E+01	mg/kg dry	BB004	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-36-0	Sb	1.50E-01	1.80E+00	mg/kg dry	BB004	68	0.39-0.8	N/A	N/A	N/A	N/A	N/A	Y	D
	7782-49-2	Se	[3.75E-01]	1.15E+00	mg/kg dry	BW05	32	0.375-0.95	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-66-6	Zn	2.84E+01	2.10E+02	mg/kg dry	BB004	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	83-32-9	Acenaphthene	2.50E-03	[2.60E-01]	mg/kg dry	[BB004]	32	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	208-96-8	Acenaphthylene	6.32E-03	[2.60E-01]	mg/kg dry	[BB004]	32	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	120-12-7	Anthracene	1.60E-02	2.60E-01	mg/kg dry	BB004 ,BB010	35	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	56-55-3	Benzo(a)anthracene	5.70E-02	5.80E-01	mg/kg dry	BB010	42	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	50-32-8	Benzo(a)pyrene	9.70E-02	6.60E-01	mg/kg dry	BB010	61	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	205-99-2	Benzo(b)fluoranthene	[1.00E-01]	8.20E-01	mg/kg dry	BB010	61	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	191-24-2	Benzo(g,h,i)perylene	7.20E-02	[2.60E-01]	mg/kg dry	[BB004]	48	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	207-08-9	Benzo(k)fluoranthene	3.30E-02	3.30E-01	mg/kg dry	BB010	42	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	218-01-9	Chrysene	6.10E-02	6.70E-01	mg/kg dry	BB010	42	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	53-70-3	Dibenz(a,h)anthracene	6.00E-03	[2.60E-01]	mg/kg dry	[BB004]	32	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	206-44-0	Fluoranthene	[1.00E-01]	1.60E+00	mg/kg dry	BB010	52	0.1-0.21	N/A	N/A	N/A	N/A	N/A	Y	D
	86-73-7	Fluorene	3.50E-03	[2.60E-01]	mg/kg dry	[BB004]	32	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	193-39-5	Indeno(1,2,3-cd)pyrene	7.10E-02	[2.60E-01]	mg/kg dry	[BB004]	45	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	91-57-6	2-Methylnaphthalene	7.01E-03	[2.60E-01]	mg/kg dry	[BB004]	19	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	91-20-3	Naphthalene	4.30E-03	[2.60E-01]	mg/kg dry	[BB004]	32	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	85-01-8	Phenanthrene	3.70E-02	5.90E-01	mg/kg dry	BB010	42	0.1-0.26	N/A	N/A	N/A	N/A	N/A	Y	D
	129-00-0	Pyrene	[1.00E-01]	1.90E+00	mg/kg dry	BB010	68	0.1-0.21	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDD	[1.40E-04]	1.77E-03	mg/kg dry	BW02	60	0.00014-0.00017	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDE	[7.20E-05]	[2.80E-04]	mg/kg dry	[BW04]	40	0.000072-0.00028	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDT	1.32E-04	[2.80E-04]	mg/kg dry	[BW04]	50	0.00023-0.00028	N/A	N/A	N/A	N/A	N/A	Y	D
	72-54-8	4,4'-DDD	[3.60E-04]	[1.30E-02]	mg/kg dry	[BB004]	23	0.00036-0.013	N/A	N/A	N/A	N/A	N/A	Y	D
	72-55-9	4,4'-DDE	6.00E-04	[1.30E-02]	mg/kg dry	[BB004]	32	0.0012-0.013	N/A	N/A	N/A	N/A	N/A	Y	D
	50-29-3	4,4'-DDT	3.02E-04	[1.30E-02]	mg/kg dry	[BB004]	19	0.00036-0.013	N/A	N/A	N/A	N/A	N/A	Y	D
	5103-71-9	*alpha*-Chlordane	8.13E-05	[6.50E-03]	mg/kg dry	[BB004]	16	0.00014-0.0065	N/A	N/A	N/A	N/A	N/A	Y	D

Table 2.1. Occurrence, Distribution, And Selection Of Chemicals Of Potential Concern for Breakwater Beach, continued

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
	319-84-6	*alpha*-BHC	[2.62E-05]	[6.50E-03]	mg/kg dry	[BB004]	0	0.00002615-0.0065	N/A	N/A	N/A	N/A	N/A	N	U
	50-67-1	Dieldrin	[1.40E-04]	[1.30E-02]	mg/kg dry	[BB004]	16	0.00014-0.013	N/A	N/A	N/A	N/A	N/A	Y	D
	959-98-8	Endosulfan I	[4.96E-05]	[6.50E-03]	mg/kg dry	[BB004]	0	0.00004962-0.0065	N/A	N/A	N/A	N/A	N/A	N	U
	33213-65-9	Endosulfan II	[4.85E-05]	[1.30E-02]	mg/kg dry	[BB004]	4	0.00004845-0.013	N/A	N/A	N/A	N/A	N/A	Y	D
	1031-07-8	Endosulfan sulfate	[5.07E-05]	[1.30E-02]	mg/kg dry	[BB004]	0	0.00005067-0.013	N/A	N/A	N/A	N/A	N/A	N	U
	72-20-8	Endrin	[4.29E-05]	[1.30E-02]	mg/kg dry	[BB004]	0	0.00004289-0.013	N/A	N/A	N/A	N/A	N/A	N	U
	7421-93-4	Endrin aldehyde	[7.02E-05]	[1.30E-02]	mg/kg dry	[BB004]	0	0.00007016-0.013	N/A	N/A	N/A	N/A	N/A	N	U
	58-89-9	*gamma*-BHC	[3.17E-05]	[6.50E-03]	mg/kg dry	[BB004]	0	0.00003174-0.0065	N/A	N/A	N/A	N/A	N/A	Y	D
	005566-34-7	*gamma*-Chlordane	2.85E-04	[6.50E-03]	mg/kg dry	[BB004]	19	0.0006-0.0065	N/A	N/A	N/A	N/A	N/A	Y	D
	76-44-8	Heptachlor	[4.02E-05]	[6.50E-03]	mg/kg dry	[BB004]	0	0.00004016-0.0065	N/A	N/A	N/A	N/A	N/A	N	U
	1336-36-3	Total PCBs	1.00E-02	1.19E-01	mg/kg dry	BB008	45	0.096-1.04	N/A	N/A	N/A	N/A	N/A	Y	D
	56-35-9	TBT	[1.00E-03]	9.00E-03	mg/kg dry	BW01	16	0.001-0.003048	N/A	N/A	N/A	N/A	N/A	Y	D

N/A = not applicable

D = detected in sediment and/or tissue; U = undetected in both sediment and tissue.

Bracketed values indicate non-detects.

Table 2.2. Occurrence, Distribution, And Selection Of Chemicals Of Potential Concern for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
Breakwater Beach	7440-22-4	Ag	2.50E-02	4.99E-02	mg/kg wet	BW04	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-38-2	As	2.86E+00	5.07E+00	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-43-9	Cd	2.90E-02	5.29E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	18540-29-9	Cr	2.10E+00	1.10E+01	mg/kg wet	BW05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-50-8	Cu	1.56E+00	2.86E+00	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7439-97-6	Hg	9.66E-03	[2.53E-02]	mg/kg wet	[BW02]	80	0.02527-0.02527	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-02-0	Ni	1.77E+00	6.99E+00	mg/kg wet	BW05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-36-0	Sb	5.05E-03	9.02E-03	mg/kg wet	BW05	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	7782-49-2	Se	2.92E-01	5.97E-01	mg/kg wet	BW01	60	0.483-0.532	N/A	N/A	N/A	N/A	N/A	Y	D
	7440-66-6	Zn	1.40E+01	2.21E+01	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	83-32-9	Acenaphthene	[2.30E-04]	7.07E-04	mg/kg wet	BW05	80	0.0002298-0.0002298	N/A	N/A	N/A	N/A	N/A	Y	D
	208-96-8	Acenaphthylene	7.60E-04	3.01E-03	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	120-12-7	Anthracene	1.70E-03	1.59E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	56-55-3	Benzo(a)anthracene	5.30E-03	6.72E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	50-32-8	Benzo(a)pyrene	5.30E-03	2.83E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	205-99-2	Benzo(b)fluoranthene	7.25E-03	5.66E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	191-24-2	Benzo(g,h,i)perylene	3.54E-03	6.72E-03	mg/kg wet	BW03	80	0.004243-0.004243	N/A	N/A	N/A	N/A	N/A	Y	D
	207-08-9	Benzo(k)fluoranthene	5.48E-03	1.64E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	218-01-9	Chrysene	5.83E-03	4.60E-02	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	53-70-3	Dibenz(a,h)anthracene	3.89E-04	1.17E-03	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	206-44-0	Fluoranthene	1.11E-02	1.45E-01	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	86-73-7	Fluorene	[2.74E-04]	[3.98E-03]	mg/kg wet	[BW04]	40	0.000274-0.003978	N/A	N/A	N/A	N/A	N/A	Y	D
	193-39-5	Indeno(1,2,3-cd)pyrene	2.30E-03	6.01E-03	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	91-57-6	2-Methylnaphthalene	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	91-20-3	Naphthalene	1.31E-03	[4.24E-03]	mg/kg wet	[BW05]	20	0.003624-0.004243	N/A	N/A	N/A	N/A	N/A	Y	D
	85-01-8	Phenanthrene	[3.62E-03]	4.42E-03	mg/kg wet	BW02	20	0.003624-0.004243	N/A	N/A	N/A	N/A	N/A	Y	D
	129-00-0	Pyrene	1.52E-02	2.30E-01	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDD	[5.13E-05]	3.01E-04	mg/kg wet	BW04, BW05	80	0.00005127-0.00005127	N/A	N/A	N/A	N/A	N/A	Y	D
	N/A	2,4'-DDE	[5.75E-05]	[1.33E-04]	mg/kg wet	[BW05]	0	0.00005746-0.0001326	N/A	N/A	N/A	N/A	N/A	Y	D

Table 2.2. Occurrence, Distribution, And Selection Of Chemicals Of Potential Concern for Breakwater Beach, continued

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
	N/A	2,4'-DDT	[6.37E-05]	[1.50E-04]	mg/kg wet	[BW05]	0	0.00006365-0.0001503	N/A	N/A	N/A	N/A	N/A	Y	D
	72-54-8	4,4'-DDD	7.96E-04	1.27E-03	mg/kg wet	BW03	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	72-55-9	4,4'-DDE	7.07E-04	1.77E-03	mg/kg wet	BW01	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	50-29-3	4,4'-DDT	[7.16E-05]	4.95E-04	mg/kg wet	BW03	33	0.0000716-0.00007514	N/A	N/A	N/A	N/A	N/A	Y	D
	5103-71-9	*alpha*-Chlordane	[4.60E-05]	1.95E-04	mg/kg wet	BW04	20	0.00004597-0.0001061	N/A	N/A	N/A	N/A	N/A	Y	D
	319-84-6	*alpha*-BHC	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	U
	50-67-1	Dieldrin	1.95E-04	3.54E-04	mg/kg wet	BW02, BW04	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	959-98-8	Endosulfan I	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	U
	33213-65-9	Endosulfan II	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	1031-07-8	Endosulfan sulfate	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	U
	72-20-8	Endrin	[4.07E-05]	[4.24E-05]	mg/kg wet	[BW01]	0	0.00004066-0.00004243	N/A	N/A	N/A	N/A	N/A	N	U
	7421-93-4	Endrin aldehyde	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	U
	58-89-9	*gamma*-BHC	[4.07E-05]	2.65E-04	mg/kg wet	BW01	20	0.00004066-0.00009724	N/A	N/A	N/A	N/A	N/A	Y	D
	005566-34-7	*gamma*-Chlordane	N/A	N/A	mg/kg wet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	76-44-8	Heptachlor	[4.60E-05]	[1.06E-04]	mg/kg wet	[BW05]	0	0.00004597-0.0001061	N/A	N/A	N/A	N/A	N/A	N	U
	1336-36-3	Total PCBs	6.37E-04	2.21E-02	mg/kg wet	BW03	100	N/A	N/A	N/A	N/A	N/A	N/A	Y	D
	56-35-9	TBT	[2.49E-03]	3.06E-03	mg/kg wet	BW02	40	0.002494-0.002519	N/A	N/A	N/A	N/A	N/A	Y	D

N/A = not applicable

D = detected in sediment and/or tissue; U = undetected in both sediment and tissue.

Bracketed values indicate non-detects.

Table 3.1.CT. Exposure Point Concentration Summary Central Tendency Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Concentration (Qualifier)	Exposure Point Concentration Value	Units	Statistic	Rationale
Breakwater Beach	Ag	mg/kg dry	3.71E-01	4.72E-01	2.50E+00	4.72E-01	mg/kg dry	NP	(1)
	As	mg/kg dry	7.06E+00	7.89E+00	1.19E+01	7.89E+00	mg/kg dry	N	(3)
	Cd	mg/kg dry	1.42E-01	1.81E-01	4.56E-01	1.81E-01	mg/kg dry	NP	(1)
	Cr	mg/kg dry	7.85E+01	9.65E+01	1.53E+02	9.65E+01	mg/kg dry	LN	(2)
	Cu	mg/kg dry	4.01E+01	4.65E+01	7.72E+01	4.65E+01	mg/kg dry	N	(3)
	Hg	mg/kg dry	2.77E-01	3.24E-01	6.60E-01	3.24E-01	mg/kg dry	N	(3)
	Ni	mg/kg dry	5.86E+01	6.57E+01	9.90E+01	6.57E+01	mg/kg dry	N	(3)
	Sb	mg/kg dry	7.86E-01	9.28E-01	1.80E+00	9.28E-01	mg/kg dry	N	(3)
	Se	mg/kg dry	6.24E-01	6.81E-01	1.15E+00	6.81E-01	mg/kg dry	LN	(2)
	Zn	mg/kg dry	1.06E+02	1.20E+02	2.10E+02	1.20E+02	mg/kg dry	N	(3)
	Acenaphthene	mg/kg dry	1.09E-01	<8.74E-02>	[2.60E-01]	<8.74E-02>	mg/kg dry	NP	(1)
	Acenaphthylene	mg/kg dry	1.08E-01	<3.70E-02>	[2.60E-01]	<3.70E-02>	mg/kg dry	NP	(1)
	Anthracene	mg/kg dry	1.26E-01	1.47E-01	2.60E-01	1.47E-01	mg/kg dry	N	(3)
	Benzo(a)anthracene	mg/kg dry	1.73E-01	2.12E-01	5.80E-01	2.12E-01	mg/kg dry	LN	(2)
	Benzo(a)pyrene	mg/kg dry	2.01E-01	2.31E-01	6.60E-01	2.31E-01	mg/kg dry	NP	(1)
	Benzo(b)fluoranthene	mg/kg dry	2.28E-01	2.65E-01	8.20E-01	2.65E-01	mg/kg dry	NP	(1)
	Benzo(g,h,i)perylene	mg/kg dry	1.50E-01	1.64E-01	[2.60E-01]	1.64E-01	mg/kg dry	N	(3)
	Benzo(k)fluoranthene	mg/kg dry	1.48E-01	1.68E-01	3.30E-01	1.68E-01	mg/kg dry	N	(3)
	Chrysene	mg/kg dry	1.93E-01	2.39E-01	6.70E-01	2.39E-01	mg/kg dry	LN	(2)
	Dibenz(a,h)anthracene	mg/kg dry	1.10E-01	<3.05E-02>	[2.60E-01]	<3.05E-02>	mg/kg dry	NP	(1)
	Fluoranthene	mg/kg dry	3.19E-01	4.13E-01	1.60E+00	4.13E-01	mg/kg dry	NP	(1)
	Fluorene	mg/kg dry	1.11E-01	<1.08E-01>	[2.60E-01]	<1.08E-01>	mg/kg dry	NP	(1)
	Indeno(1,2,3-cd)pyrene	mg/kg dry	1.47E-01	1.60E-01	[2.60E-01]	1.60E-01	mg/kg dry	N	(3)
	2-Methylnaphthalene	mg/kg dry	1.27E-01	<2.10E-02>	[2.60E-01]	<2.10E-02>	mg/kg dry	NP	(1)
	Naphthalene	mg/kg dry	1.08E-01	<2.98E-02>	[2.60E-01]	<2.98E-02>	mg/kg dry	NP	(1)
	Phenanthrene	mg/kg dry	1.69E-01	2.19E-01	5.90E-01	2.19E-01	mg/kg dry	LN	(2)
	Pyrene	mg/kg dry	3.47E-01	4.41E-01	1.90E+00	4.41E-01	mg/kg dry	NP	(1)
	2,4'-DDD	mg/kg dry	6.27E-04	9.29E-04	1.77E-03	9.29E-04	mg/kg dry	N	(3)
	2,4'-DDE	mg/kg dry	1.83E-04	<1.37E-04>	[2.80E-04]	<1.37E-04>	mg/kg dry	LN	(2)
	2,4'-DDT	mg/kg dry	2.17E-04	<2.27E-04>	[2.80E-04]	<2.27E-04>	mg/kg dry	N	(3)
	4,4'-DDD	mg/kg dry	2.73E-03	<1.86E-03>	[1.30E-02]	<1.86E-03>	mg/kg dry	NP	(1)
	4,4'-DDE	mg/kg dry	2.73E-03	<1.56E-03>	[1.30E-02]	<1.56E-03>	mg/kg dry	NP	(1)
	4,4'-DDT	mg/kg dry	2.50E-03	<2.10E-03>	[1.30E-02]	<2.10E-03>	mg/kg dry	LN	(2)
	alpha-Chlordane	mg/kg dry	1.26E-03	<1.91E-04>	[6.50E-03]	<1.91E-04>	mg/kg dry	NP	(1)
	Dieldrin	mg/kg dry	2.66E-03	<6.22E-04>	[1.30E-02]	<6.22E-04>	mg/kg dry	LN	(2)

Table 3.1.CT. Exposure Point Concentration Summary Central Tendency Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	Endosulfan II	mg/kg dry	3.01E-03	3.91E-03	[1.30E-02]	3.91E-03	mg/kg dry	NP	(1)
	gamma-BHC	mg/kg dry	>1.35E-03<	>1.77E-03<	[6.50E-03]	>1.77E-03<	mg/kg dry	NP	(1)
	gamma-Chlordane	mg/kg dry	1.54E-03	<1.11E-03>	[6.50E-03]	<1.11E-03>	mg/kg dry	NP	(1)
	Total PCBs	mg/kg dry	1.76E-02	2.42E-02	1.19E-01	2.42E-02	mg/kg dry	NP	(1)
	TBT	mg/kg dry	2.53E-03	3.07E-03	9.00E-03	3.07E-03	mg/kg dry	NP	(1)

For non-detects, 1/2 sample detection limit was used as a proxy concentration. For Total PCBs, zero was used for summing non-detects.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)

Statistic: 95% UCL of Normal Data (95% UCL - N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Rationale:

(1) Shapiro-Wilk W-test indicates nonparametric distribution of data.

(2) Shapiro-Wilk W-test indicates data are log-normally distributed.

(3) Shapiro-Wilk W-test indicates normal distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).

Values enclosed in "><" indicate an estimate based solely on nondetects.

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
Shellfish in Breakwater Beach	Ag	mg/kg wet	3.78E-02	4.70E-02	4.99E-02	4.70E-02	mg/kg wet	N	(3)
	As	mg/kg wet	3.68E+00	4.57E+00	5.07E+00	4.57E+00	mg/kg wet	N	(3)
	Cd	mg/kg wet	3.94E-02	4.77E-02	5.29E-02	4.77E-02	mg/kg wet	N	(3)
	Cr	mg/kg wet	5.13E+00	8.40E+00	1.10E+01	8.40E+00	mg/kg wet	N	(3)
	Cu	mg/kg wet	2.35E+00	<2.86E+00>	2.86E+00	<2.86E+00>	mg/kg wet	N	(3)
	Hg	mg/kg wet	1.32E-02	<1.10E-02>	[2.53E-02]	<1.10E-02>	mg/kg wet	NP	(1)
	Ni	mg/kg wet	3.84E+00	5.67E+00	6.99E+00	5.67E+00	mg/kg wet	N	(3)
	Sb	mg/kg wet	7.64E-03	<9.02E-03>	9.02E-03	<9.02E-03>	mg/kg wet	N	(3)
	Se	mg/kg wet	4.42E-01	5.72E-01	5.97E-01	5.72E-01	mg/kg wet	N	(3)
	Zn	mg/kg wet	1.65E+01	1.97E+01	2.21E+01	1.97E+01	mg/kg wet	N	(3)
	Acenaphthene	mg/kg wet	5.13E-04	6.89E-04	7.07E-04	6.89E-04	mg/kg wet	N	(3)
	Acenaphthylene	mg/kg wet	1.42E-03	2.35E-03	3.01E-03	2.35E-03	mg/kg wet	N	(3)
	Anthracene	mg/kg wet	6.10E-03	1.18E-02	1.59E-02	1.18E-02	mg/kg wet	N	(3)
	Benzo(a)anthracene	mg/kg wet	1.94E-02	<6.72E-02>	6.72E-02	<6.72E-02>	mg/kg wet	LN	(2)
	Benzo(a)pyrene	mg/kg wet	1.24E-02	2.13E-02	2.83E-02	2.13E-02	mg/kg wet	N	(3)
	Benzo(b)fluoranthene	mg/kg wet	2.10E-02	<5.66E-02>	5.66E-02	<5.66E-02>	mg/kg wet	LN	(2)
	Benzo(g,h,i)perylene	mg/kg wet	5.09E-03	6.41E-03	6.72E-03	6.41E-03	mg/kg wet	N	(3)
	Benzo(k)fluoranthene	mg/kg wet	8.42E-03	1.55E-02	1.64E-02	1.55E-02	mg/kg wet	LN	(2)
	Chrysene	mg/kg wet	1.57E-02	<4.60E-02>	4.60E-02	<4.60E-02>	mg/kg wet	LN	(2)
	Dibenz(a,h)anthracene	mg/kg wet	6.37E-04	9.31E-04	1.17E-03	9.31E-04	mg/kg wet	N	(3)

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	Fluoranthene	mg/kg wet	4.07E-02	<1.45E-01>	1.45E-01	<1.45E-01>	mg/kg wet	LN	(2)
	Fluorene	mg/kg wet	1.17E-03	<9.55E-04>	[3.98E-03]	<9.55E-04>	mg/kg wet	LN	(2)
	Indeno(1,2,3-cd)pyrene	mg/kg wet	3.57E-03	5.08E-03	6.01E-03	5.08E-03	mg/kg wet	N	(3)
	2-Methylnaphthalene	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	Naphthalene	mg/kg wet	3.39E-03	<1.31E-03>	[4.24E-03]	<1.31E-03>	mg/kg wet	NP	(1)
	Phenanthrene	mg/kg wet	4.01E-03	4.32E-03	4.42E-03	4.32E-03	mg/kg wet	N	(3)
	Pyrene	mg/kg wet	6.09E-02	<2.30E-01>	2.30E-01	<2.30E-01>	mg/kg wet	LN	(2)
	2,4′-DDD	mg/kg wet	2.30E-04	<3.01E-04>	3.01E-04	<3.01E-04>	mg/kg wet	NP	(1)
	2,4′-DDE	mg/kg wet	>9.78E-05<	>1.32E-04<	[1.33E-04]	2.61E-05	mg/kg wet	N	(3)
	2,4′-DDT	mg/kg wet	>1.09E-04<	>1.49E-04<	[1.50E-04]	1.05E-04	mg/kg wet	N	(3)
	4,4′-DDD	mg/kg wet	1.01E-03	1.19E-03	1.27E-03	1.19E-03	mg/kg wet	N	(3)
	4,4′-DDE	mg/kg wet	1.29E-03	1.69E-03	1.77E-03	1.69E-03	mg/kg wet	N	(3)
	4,4′-DDT	mg/kg wet	2.14E-04	3.56E-04	4.95E-04	3.56E-04	mg/kg wet	NP	(1)
	alpha-Chlordane	mg/kg wet	9.67E-05	1.54E-04	1.95E-04	1.54E-04	mg/kg wet	N	(3)
	Dieldrin	mg/kg wet	3.04E-04	<3.54E-04>	3.54E-04	<3.54E-04>	mg/kg wet	N	(3)
	Endosulfan II	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	gamma-BHC	mg/kg wet	1.13E-04	<2.65E-04>	2.65E-04	<2.65E-04>	mg/kg wet	LN	(2)
	gamma-Chlordane	mg/kg wet	N/A	N/A	N/A	1.03E-03	mg/kg wet	N/A	N/A
	Total PCBs	mg/kg wet	9.47E-03	1.70E-02	2.21E-02	1.70E-02	mg/kg wet	N	(3)
	TBT	mg/kg wet	2.71E-03	2.96E-03	3.06E-03	2.96E-03	mg/kg wet	NP	(1)

Table 3.2.CT. Exposure Point Concentration Summary Central Tendency for Breakwater Beach, continued

N/A = not applicable

(a) Shellfish tissue concentrations for non-detected chemicals were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)

Statistic: 95% UCL of Normal Data (95% UCL - N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Rationale:

(1) Shapiro-Wilk W-test indicates nonparametric distribution of data.

(2) Shapiro-Wilk W-test indicates data are log-normally distributed.

(3) Shapiro-Wilk W-test indicates normal distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).

Values enclosed in "><" indicate an estimate based solely on nondetects.

Table 3.3.CT. Exposure Point Concentration Summary Central Tendency for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Forage Fish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
Forage fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	2.12E-03	mg/kg wet	N/A	N/A
	As	N/A	N/A	N/A	N/A	2.35E-01	mg/kg wet	N/A	N/A
	Cd	N/A	N/A	N/A	N/A	7.06E-04	mg/kg wet	N/A	N/A
	Cr	N/A	N/A	N/A	N/A	2.51E-01	mg/kg wet	N/A	N/A
	Cu	N/A	N/A	N/A	N/A	6.75E-01	mg/kg wet	N/A	N/A
	Hg	N/A	N/A	N/A	N/A	1.44E-02	mg/kg wet	N/A	N/A
	Ni	N/A	N/A	N/A	N/A	7.23E-02	mg/kg wet	N/A	N/A
	Sb	N/A	N/A	N/A	N/A	9.28E-04	mg/kg wet	N/A	N/A
	Se	N/A	N/A	N/A	N/A	2.35E-01	mg/kg wet	N/A	N/A
	Zn	N/A	N/A	N/A	N/A	7.73E+00	mg/kg wet	N/A	N/A
	Acenaphthene	N/A	N/A	N/A	N/A	2.32E-03	mg/kg wet	N/A	N/A
	Acenaphthylene	N/A	N/A	N/A	N/A	5.18E-05	mg/kg wet	N/A	N/A
	Anthracene	N/A	N/A	N/A	N/A	7.04E-04	mg/kg wet	N/A	N/A
	Benzo(a)anthracene	N/A	N/A	N/A	N/A	4.02E-04	mg/kg wet	N/A	N/A
	Benzo(a)pyrene	N/A	N/A	N/A	N/A	3.23E-04	mg/kg wet	N/A	N/A
	Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	3.98E-04	mg/kg wet	N/A	N/A
	Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	2.79E-04	mg/kg wet	N/A	N/A
	Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	4.37E-04	mg/kg wet	N/A	N/A
	Chrysene	N/A	N/A	N/A	N/A	9.30E-04	mg/kg wet	N/A	N/A
	Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	1.83E-05	mg/kg wet	N/A	N/A
	Fluoranthene	N/A	N/A	N/A	N/A	2.85E-03	mg/kg wet	N/A	N/A

Table 3.3.CT. Exposure Point Concentration Summary Central Tendency for Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
	Fluorene	N/A	N/A	N/A	N/A	1.57E-03	mg/kg wet	N/A	N/A
	Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	2.09E-04	mg/kg wet	N/A	N/A
	2-Methylnaphthalene	N/A	N/A	N/A	N/A	9.24E-05	mg/kg wet	N/A	N/A
	Naphthalene	N/A	N/A	N/A	N/A	2.18E-04	mg/kg wet	N/A	N/A
	Phenanthrene	N/A	N/A	N/A	N/A	4.12E-03	mg/kg wet	N/A	N/A
	Pyrene	N/A	N/A	N/A	N/A	1.50E-03	mg/kg wet	N/A	N/A
	2,4'-DDD	N/A	N/A	N/A	N/A	3.81E-06	mg/kg wet	N/A	N/A
	2,4'-DDE	N/A	N/A	N/A	N/A	3.54E-05	mg/kg wet	N/A	N/A
	2,4'-DDT	N/A	N/A	N/A	N/A	1.57E-05	mg/kg wet	N/A	N/A
	4,4'-DDD	N/A	N/A	N/A	N/A	9.56E-04	mg/kg wet	N/A	N/A
	4,4'-DDE	N/A	N/A	N/A	N/A	1.98E-03	mg/kg wet	N/A	N/A
	4,4'-DDT	N/A	N/A	N/A	N/A	2.54E-04	mg/kg wet	N/A	N/A
	alpha-Chlordane	N/A	N/A	N/A	N/A	6.76E-05	mg/kg wet	N/A	N/A
	Dieldrin	N/A	N/A	N/A	N/A	1.43E-04	mg/kg wet	N/A	N/A
	Endosulfan II	N/A	N/A	N/A	N/A	3.56E-05	mg/kg wet	N/A	N/A
	gamma-BHC	N/A	N/A	N/A	N/A	2.28E-05	mg/kg wet	N/A	N/A
	gamma-Chlordane	N/A	N/A	N/A	N/A	1.31E-04	mg/kg wet	N/A	N/A
	Total PCBs	N/A	N/A	N/A	N/A	1.63E-02	mg/kg wet	N/A	N/A
	TBT	N/A	N/A	N/A	N/A	3.85E-03	mg/kg wet	N/A	N/A

N/A = not applicable
(a) No forage fish tissue samples were collected
from Breakwater Beach during this study.

Table 3.1.RME.Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Breakwater Beach	Ag	mg/kg dry	3.71E-01	4.72E-01	2.50E+00	4.72E-01	mg/kg dry	NP	(1)
	As	mg/kg dry	7.06E+00	7.89E+00	1.19E+01	7.89E+00	mg/kg dry	N	(3)
	Cd	mg/kg dry	1.42E-01	1.81E-01	4.56E-01	1.81E-01	mg/kg dry	NP	(1)
	Cr	mg/kg dry	7.85E+01	9.65E+01	1.53E+02	9.65E+01	mg/kg dry	LN	(2)
	Cu	mg/kg dry	4.01E+01	4.65E+01	7.72E+01	4.65E+01	mg/kg dry	N	(3)
	Hg	mg/kg dry	2.77E-01	3.24E-01	6.60E-01	3.24E-01	mg/kg dry	N	(3)
	Ni	mg/kg dry	5.86E+01	6.57E+01	9.90E+01	6.57E+01	mg/kg dry	N	(3)
	Sb	mg/kg dry	7.86E-01	9.28E-01	1.80E+00	9.28E-01	mg/kg dry	N	(3)
	Se	mg/kg dry	6.24E-01	6.81E-01	1.15E+00	6.81E-01	mg/kg dry	LN	(2)
	Zn	mg/kg dry	1.06E+02	1.20E+02	2.10E+02	1.20E+02	mg/kg dry	N	(3)
	Acenaphthene	mg/kg dry	1.09E-01	<8.74E-02>	[2.60E-01]	<8.74E-02>	mg/kg dry	NP	(1)
	Acenaphthylene	mg/kg dry	1.08E-01	<3.70E-02>	[2.60E-01]	<3.70E-02>	mg/kg dry	NP	(1)
	Anthracene	mg/kg dry	1.26E-01	1.47E-01	2.60E-01	1.47E-01	mg/kg dry	N	(3)
	Benzo(a)anthracene	mg/kg dry	1.73E-01	2.12E-01	5.80E-01	2.12E-01	mg/kg dry	LN	(2)
	Benzo(a)pyrene	mg/kg dry	2.01E-01	2.31E-01	6.60E-01	2.31E-01	mg/kg dry	NP	(1)
	Benzo(b)fluoranthene	mg/kg dry	2.28E-01	2.65E-01	8.20E-01	2.65E-01	mg/kg dry	NP	(1)
	Benzo(g,h,i)perylene	mg/kg dry	1.50E-01	1.64E-01	[2.60E-01]	1.64E-01	mg/kg dry	N	(3)
	Benzo(k)fluoranthene	mg/kg dry	1.48E-01	1.68E-01	3.30E-01	1.68E-01	mg/kg dry	N	(3)
	Chrysene	mg/kg dry	1.93E-01	2.39E-01	6.70E-01	2.39E-01	mg/kg dry	LN	(2)
	Dibenz(a,h)anthracene	mg/kg dry	1.10E-01	<3.05E-02>	[2.60E-01]	<3.05E-02>	mg/kg dry	NP	(1)
	Fluoranthene	mg/kg dry	3.19E-01	4.13E-01	1.60E+00	4.13E-01	mg/kg dry	NP	(1)
	Fluorene	mg/kg dry	1.11E-01	<1.08E-01>	[2.60E-01]	<1.08E-01>	mg/kg dry	NP	(1)

Table 3.1.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
	Indeno(1,2,3-cd)pyrene	mg/kg dry	1.47E-01	1.60E-01	[2.60E-01]	1.60E-01	mg/kg dry	N	(3)
	2-Methylnaphthalene	mg/kg dry	1.27E-01	<2.10E-02>	[2.60E-01]	<2.10E-02>	mg/kg dry	NP	(1)
	Naphthalene	mg/kg dry	1.08E-01	<2.98E-02>	[2.60E-01]	<2.98E-02>	mg/kg dry	NP	(1)
	Phenanthrene	mg/kg dry	1.69E-01	2.19E-01	5.90E-01	2.19E-01	mg/kg dry	LN	(2)
	Pyrene	mg/kg dry	3.47E-01	4.41E-01	1.90E+00	4.41E-01	mg/kg dry	NP	(1)
	2,4'-DDD	mg/kg dry	6.27E-04	9.29E-04	1.77E-03	9.29E-04	mg/kg dry	N	(3)
	2,4'-DDE	mg/kg dry	1.83E-04	<1.37E-04>	[2.80E-04]	<1.37E-04>	mg/kg dry	LN	(2)
	2,4'-DDT	mg/kg dry	2.17E-04	<2.27E-04>	[2.80E-04]	<2.27E-04>	mg/kg dry	N	(3)
	4,4'-DDD	mg/kg dry	2.73E-03	<1.86E-03>	[1.30E-02]	<1.86E-03>	mg/kg dry	NP	(1)
	4,4'-DDE	mg/kg dry	2.73E-03	<1.56E-03>	[1.30E-02]	<1.56E-03>	mg/kg dry	NP	(1)
	4,4'-DDT	mg/kg dry	2.50E-03	<2.10E-03>	[1.30E-02]	<2.10E-03>	mg/kg dry	LN	(2)
	alpha-Chlordane	mg/kg dry	1.26E-03	<1.91E-04>	[6.50E-03]	<1.91E-04>	mg/kg dry	NP	(1)
	Dieldrin	mg/kg dry	2.66E-03	<6.22E-04>	[1.30E-02]	<6.22E-04>	mg/kg dry	LN	(2)
	Endosulfan II	mg/kg dry	3.01E-03	3.91E-03	[1.30E-02]	3.91E-03	mg/kg dry	NP	(1)
	gamma-BHC	mg/kg dry	>1.35E-03<	>1.77E-03<	[6.50E-03]	>1.77E-03<	mg/kg dry	NP	(1)
	gamma-Chlordane	mg/kg dry	1.54E-03	<1.11E-03>	[6.50E-03]	<1.11E-03>	mg/kg dry	NP	(1)
	Total PCBs	mg/kg dry	1.76E-02	2.42E-02	1.19E-01	2.42E-02	mg/kg dry	NP	(1)
	TBT	mg/kg dry	2.53E-03	3.07E-03	9.00E-03	3.07E-03	mg/kg dry	NP	(1)

For non-detects, 1/2 sample detection limit was used as a proxy concentration. For Total PCBs, zero was used for summing non-detects.

W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.

Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)

Statistic:95% UCL of Normal Data (95% UCL – N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Rationale:
(1) Shapiro-Wilk W-test indicates nonparametric distribution of data.
(2) Shapiro-Wilk W-test indicates data are log-normally distributed.
(3) Shapiro-Wilk W-test indicates normal distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is

Values enclosed in "><" indicate an estimate based solely on nondetects

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Shellfish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
Shellfish in Breakwater Beach	Ag	mg/kg wet	3.78E-02	4.70E-02	4.99E-02	4.70E-02	mg/kg wet	N	(3)
	As	mg/kg wet	3.68E+00	4.57E+00	5.07E+00	4.57E+00	mg/kg wet	N	(3)
	Cd	mg/kg wet	3.94E-02	4.77E-02	5.29E-02	4.77E-02	mg/kg wet	N	(3)
	Cr	mg/kg wet	5.13E+00	8.40E+00	1.10E+01	8.40E+00	mg/kg wet	N	(3)
	Cu	mg/kg wet	2.35E+00	<2.86E+00>	2.86E+00	<2.86E+00>	mg/kg wet	N	(3)
	Hg	mg/kg wet	1.32E-02	<1.10E-02>	[2.53E-02]	<1.10E-02>	mg/kg wet	NP	(1)
	Ni	mg/kg wet	3.84E+00	5.67E+00	6.99E+00	5.67E+00	mg/kg wet	N	(3)
	Sb	mg/kg wet	7.64E-03	<9.02E-03>	9.02E-03	<9.02E-03>	mg/kg wet	N	(3)
	Se	mg/kg wet	4.42E-01	5.72E-01	5.97E-01	5.72E-01	mg/kg wet	N	(3)
	Zn	mg/kg wet	1.65E+01	1.97E+01	2.21E+01	1.97E+01	mg/kg wet	N	(3)
	Acenaphthene	mg/kg wet	5.13E-04	6.89E-04	7.07E-04	6.89E-04	mg/kg wet	N	(3)
	Acenaphthylene	mg/kg wet	1.42E-03	2.35E-03	3.01E-03	2.35E-03	mg/kg wet	N	(3)
	Anthracene	mg/kg wet	6.10E-03	1.18E-02	1.59E-02	1.18E-02	mg/kg wet	N	(3)
	Benzo(a)anthracene	mg/kg wet	1.94E-02	<6.72E-02>	6.72E-02	<6.72E-02>	mg/kg wet	LN	(2)
	Benzo(a)pyrene	mg/kg wet	1.24E-02	2.13E-02	2.83E-02	2.13E-02	mg/kg wet	N	(3)
	Benzo(b)fluoranthene	mg/kg wet	2.10E-02	<5.66E-02>	5.66E-02	<5.66E-02>	mg/kg wet	LN	(2)
	Benzo(g,h,i)perylene	mg/kg wet	5.09E-03	6.41E-03	6.72E-03	6.41E-03	mg/kg wet	N	(3)
	Benzo(k)fluoranthene	mg/kg wet	8.42E-03	1.55E-02	1.64E-02	1.55E-02	mg/kg wet	LN	(2)
	Chrysene	mg/kg wet	1.57E-02	<4.60E-02>	4.60E-02	<4.60E-02>	mg/kg wet	LN	(2)
	Dibenz(a,h)anthracene	mg/kg wet	6.37E-04	9.31E-04	1.17E-03	9.31E-04	mg/kg wet	N	(3)

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value (a)	Units	Statistic	Rationale
	Fluoranthene	mg/kg wet	4.07E-02	<1.45E-01>	1.45E-01	<1.45E-01>	mg/kg wet	LN	(2)
	Fluorene	mg/kg wet	1.17E-03	<9.55E-04>	[3.98E-03]	<9.55E-04>	mg/kg wet	LN	(2)
	Indeno(1,2,3-cd)pyrene	mg/kg wet	3.57E-03	5.08E-03	6.01E-03	5.08E-03	mg/kg wet	N	(3)
	2-Methylnaphthalene	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	Naphthalene	mg/kg wet	3.39E-03	<1.31E-03>	[4.24E-03]	<1.31E-03>	mg/kg wet	NP	(1)
	Phenanthrene	mg/kg wet	4.01E-03	4.32E-03	4.42E-03	4.32E-03	mg/kg wet	N	(3)
	Pyrene	mg/kg wet	6.09E-02	<2.30E-01>	2.30E-01	<2.30E-01>	mg/kg wet	LN	(2)
	2,4'-DDD	mg/kg wet	2.30E-04	<3.01E-04>	3.01E-04	<3.01E-04>	mg/kg wet	NP	(1)
	2,4'-DDE	mg/kg wet	>9.78E-05<	>1.32E-04<	[1.33E-04]	2.61E-05	mg/kg wet	N	(3)
	2,4'-DDT	mg/kg wet	>1.09E-04<	>1.49E-04<	[1.50E-04]	1.05E-04	mg/kg wet	N	(3)
	4,4'-DDD	mg/kg wet	1.01E-03	1.19E-03	1.27E-03	1.19E-03	mg/kg wet	N	(3)
	4,4'-DDE	mg/kg wet	1.29E-03	1.69E-03	1.77E-03	1.69E-03	mg/kg wet	N	(3)
	4,4'-DDT	mg/kg wet	2.14E-04	3.56E-04	4.95E-04	3.56E-04	mg/kg wet	NP	(1)
	alpha-Chlordane	mg/kg wet	9.67E-05	1.54E-04	1.95E-04	1.54E-04	mg/kg wet	N	(3)
	Dieldrin	mg/kg wet	3.04E-04	<3.54E-04>	3.54E-04	<3.54E-04>	mg/kg wet	N	(3)
	Endosulfan II	mg/kg wet	N/A	N/A	N/A	N/A	mg/kg wet	N/A	N/A
	gamma-BHC	mg/kg wet	1.13E-04	<2.65E-04>	2.65E-04	<2.65E-04>	mg/kg wet	LN	(2)
	gamma-Chlordane	mg/kg wet	N/A	N/A	N/A	1.03E-03	mg/kg wet	N/A	N/A
	Total PCBs	mg/kg wet	9.47E-03	1.70E-02	2.21E-02	1.70E-02	mg/kg wet	N	(3)
	TBT	mg/kg wet	2.71E-03	2.96E-03	3.06E-03	2.96E-03	mg/kg wet	NP	(1)

N/A = not applicable
(a) Shellfish tissue concentrations for non-detected chemicals were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.
W-test: Developed by Shapiro and Wilk, refer to Calculating Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10. July 2002.
Distribution: Normal (N); Nonparametric (NP); Log-Transformed (LN)
Statistic: 95% UCL of Normal Data (95% UCL – N); 95% UCL of Nonparametric Data (95% UCL - NP); 95% UCL of Log-transformed Data (95% UCL - LN)

Table 3.2.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach, continued

Rationale:

(1) Shapiro-Wilk W-test indicates nonparametric distribution of data.

(2) Shapiro-Wilk W-test indicates data are log-normally distributed.

(3) Shapiro-Wilk W-test indicates normal distribution of data.

Bracketed values indicate non-detects.

Values enclosed in "<>" indicate that the calculated UCL value exceeded the maximum detect and the maximum detect is used as the estimate of the EPC (maximum half-detection limit is used if no detects).

Values enclosed in "><" indicate an estimate based solely on nondetects.

Table 3.3.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Forage Fish Tissue

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
Forage fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	2.12E-03	mg/kg wet	N/A	N/A
	As	N/A	N/A	N/A	N/A	2.35E-01	mg/kg wet	N/A	N/A
	Cd	N/A	N/A	N/A	N/A	7.06E-04	mg/kg wet	N/A	N/A
	Cr	N/A	N/A	N/A	N/A	2.51E-01	mg/kg wet	N/A	N/A
	Cu	N/A	N/A	N/A	N/A	6.75E-01	mg/kg wet	N/A	N/A
	Hg	N/A	N/A	N/A	N/A	1.44E-02	mg/kg wet	N/A	N/A
	Ni	N/A	N/A	N/A	N/A	7.23E-02	mg/kg wet	N/A	N/A
	Sb	N/A	N/A	N/A	N/A	9.28E-04	mg/kg wet	N/A	N/A
	Se	N/A	N/A	N/A	N/A	2.35E-01	mg/kg wet	N/A	N/A
	Zn	N/A	N/A	N/A	N/A	7.73E+00	mg/kg wet	N/A	N/A
	Acenaphthene	N/A	N/A	N/A	N/A	2.32E-03	mg/kg wet	N/A	N/A
	Acenaphthylene	N/A	N/A	N/A	N/A	5.18E-05	mg/kg wet	N/A	N/A
	Anthracene	N/A	N/A	N/A	N/A	7.04E-04	mg/kg wet	N/A	N/A
	Benzo(a)anthracene	N/A	N/A	N/A	N/A	4.02E-04	mg/kg wet	N/A	N/A
	Benzo(a)pyrene	N/A	N/A	N/A	N/A	3.23E-04	mg/kg wet	N/A	N/A
	Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	3.98E-04	mg/kg wet	N/A	N/A
	Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	2.79E-04	mg/kg wet	N/A	N/A
	Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	4.37E-04	mg/kg wet	N/A	N/A
	Chrysene	N/A	N/A	N/A	N/A	9.30E-04	mg/kg wet	N/A	N/A
	Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	1.83E-05	mg/kg wet	N/A	N/A
	Fluoranthene	N/A	N/A	N/A	N/A	2.85E-03	mg/kg wet	N/A	N/A

Table 3.3.RME. Exposure Point Concentration Summary Reasonable Maximum Exposure for Breakwater Beach, continued

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (a)	95% UCL (Distribution) (a)	Maximum Concentration (Qualifier) (a)	Exposure Point Concentration			
						Value (b)	Units	Statistic	Rationale
	Fluorene	N/A	N/A	N/A	N/A	1.57E-03	mg/kg wet	N/A	N/A
	Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	2.09E-04	mg/kg wet	N/A	N/A
	2-Methylnaphthalene	N/A	N/A	N/A	N/A	9.24E-05	mg/kg wet	N/A	N/A
	Naphthalene	N/A	N/A	N/A	N/A	2.18E-04	mg/kg wet	N/A	N/A
	Phenanthrene	N/A	N/A	N/A	N/A	4.12E-03	mg/kg wet	N/A	N/A
	Pyrene	N/A	N/A	N/A	N/A	1.50E-03	mg/kg wet	N/A	N/A
	2,4'-DDD	N/A	N/A	N/A	N/A	3.81E-06	mg/kg wet	N/A	N/A
	2,4'-DDE	N/A	N/A	N/A	N/A	3.54E-05	mg/kg wet	N/A	N/A
	2,4'-DDT	N/A	N/A	N/A	N/A	1.57E-05	mg/kg wet	N/A	N/A
	4,4'-DDD	N/A	N/A	N/A	N/A	9.56E-04	mg/kg wet	N/A	N/A
	4,4'-DDE	N/A	N/A	N/A	N/A	1.98E-03	mg/kg wet	N/A	N/A
	4,4'-DDT	N/A	N/A	N/A	N/A	2.54E-04	mg/kg wet	N/A	N/A
	alpha-Chlordane	N/A	N/A	N/A	N/A	6.76E-05	mg/kg wet	N/A	N/A
	Dieldrin	N/A	N/A	N/A	N/A	1.43E-04	mg/kg wet	N/A	N/A
	Endosulfan II	N/A	N/A	N/A	N/A	3.56E-05	mg/kg wet	N/A	N/A
	gamma-BHC	N/A	N/A	N/A	N/A	2.28E-05	mg/kg wet	N/A	N/A
	gamma-Chlordane	N/A	N/A	N/A	N/A	1.31E-04	mg/kg wet	N/A	N/A
	Total PCBs	N/A	N/A	N/A	N/A	1.63E-02	mg/kg wet	N/A	N/A
	TBT	N/A	N/A	N/A	N/A	3.85E-03	mg/kg wet	N/A	N/A

N/A = not applicable

(a) No forage fish tissue samples were collected from Breakwater Beach during this study.

(b) Forage fish tissue concentrations were modeled from sediment EPCs using bioaccumulation factors developed from Seaplane Lagoon and San Francisco Bay reference data.

Table 4.1.CT. Values Used For Daily Intake Calculations for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Combined (Ingestion & Dermal)	Fisher	Adult	Breakwater Beach	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	50	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	5,700	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.07	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	See Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	13	days/year	(1)	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
		Child	Breakwater Beach	Csed	Chemical Concentration in Sediment	see Table 3.1.CT	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	100	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	2,800	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.2	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	13	days/year	(1)	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	

(1) Professional Judgement.

Sources:

DTSC, 1994: *Preliminary Endangerment Assessment Guidance Manual*. State of California Environmental Protection Agency. January.

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume 1. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

Table 4.2.CT. Values Used For Daily Intake Calculations for Breakwater Beach

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Fish Tissue

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion of Shellfish	Fisher	Adult	Shellfish in Breakwater Beach	Cshell	Chemical Concentration in Shellfish	see Table 3.2.CT	mg/kg	---	Dose (mg/kg/day) = Cshell x IRshell x FI x EF x ED / (BW x AT)
				IRshell	Ingestion Rate of Shellfish	0.0008	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
Ingestion of Forage Fish	Fisher	Adult	Forage Fish in Breakwater Beach	Cfish	Chemical Concentration in Fish	see Table 3.3.CT	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.016	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	9	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	3,285	days	U.S. EPA, 2004	
		Child	Forage Fish in Breakwater Beach	Cfish	Chemical Concentration in Fish	see Table 3.3.CT	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.0056	kg/day	SFEI, 2002 ;U.S. EPA 1997	
				FI	Fraction Ingestion	0.5	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	

(1) Professional Judgement.

Sources:

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume 1. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

U.S. EPA, 1997: Exposure Factors Handbook. Office of Research and Development, Washington, DC. EPA/600/P-95/002Fb.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

San Francisco Estuary Institute (SFEI). 2002. Public Summary of the San Francisco Bay Seafood Consumption Study. March. Available at http://www.sfei.org/rmp/index.html.

Table 4.1.RME. Values Used For Daily Intake Calculations for Breakwater Beach

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Combined (Ingestion & Dermal)	Fisher	Adult	Breakwater Beach	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	100	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	5,700	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.07	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	See Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
		Child	Breakwater Beach	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = (Csed x IRsed x FI x EF x ED x CF) + (Csed x SA x AF x DAF x FI x EF x ED x CF) / (BW x AT)
				IRsed	Ingestion Rate of Sediment	200	mg/day	U.S. EPA, 2004	
				SA	Skin Surface Area	2,800	cm^2/day	U.S. EPA, 2004	
				AF	Adherence Factor	0.2	mg/cm^2	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				CF	Conversion Factor	0.000001	kg/mg	---	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	
		Child/Adult	Breakwater Beach	Csed	Chemical Concentration in Sediment	see Table 3.1.RME	mg/kg	---	Dose (mg/kg/day) = Csed x FI x EF x CF x (IRaased + (SC x DAF)) / ATc
				IRaased	Age Adjusted Sediment Ingestion Rate	114	mg-yr/kg-day	U.S. EPA, 2004	
				SC	Age Adjusted Skin Contact Rate	361	mg-yr/kg-day	U.S. EPA, 2004	
				DAF	Dermal Absorption Factor	see Table 5-3	N/A	DTSC, 1994	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	26	days/year	(1)	
				CF	Conversion Factor	0.000001	kg/mg	---	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	

Table 4.1.RME. Values Used For Daily Intake Calculations for Breakwater Beach, continued

(1) Professional Judgement.

Sources:

DTSC, 1994: *Preliminary Endangerment Assessment Guidance Manual.* State of California Environmental Protection Agency. January.

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume 1. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

Table 4.2.RME. Values Used For Daily Intake Calculations Breakwater Beach

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Fish Tissue

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion of Shellfish	Fisher	Adult	Shellfish in Breakwater Beach	Cshell	Chemical Concentration in Shellfish	see Table 3.2.RME	mg/kg	---	Dose (mg/kg/day) = Cshell x IRshell x FI x EF x ED / (BW x AT)
				IRshell	Ingestion Rate of Shellfish	0.0054	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
Ingestion of Forage Fish	Fisher	Adult	Forage Fish in Breakwater Beach	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.108	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	30	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	70	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	10,950	days	U.S. EPA, 2004	
		Child	Forage Fish in Breakwater Beach	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = Cfish x IRfish x FI x EF x ED / (BW x AT)
				IRfish	Ingestion Rate of Fish	0.011	kg/day	SFEI, 2002; U.S. EPA 1997	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ED	Exposure Duration	6	years	U.S. EPA, 1989, 1991	
				BW	Body Weight	15	kg	U.S. EPA, 2004	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	
				ATnc	Averaging Time (Noncancer)	2,190	days	U.S. EPA, 2004	
		Child/Adult	Forage Fish in Breakwater Beach	Cfish	Chemical Concentration in Fish	see Table 3.3.RME	mg/kg	---	Dose (mg/kg/day) = (Cfish x IRaafish x FI x EF) / ATc
				IRaafish	Age Adjusted Fish Ingestion Rate	0.041	yr/day	(2)	
				FI	Fraction Ingestion	1	N/A	(1)	
				EF	Exposure Frequency	365	days/year	U.S. EPA, 1989	
				ATc	Averaging Time (Cancer)	25,550	days	U.S. EPA, 2004	

(1) Professional Judgement.

(2) Age adjusted fish ingestion rate calculated as: (EDchild x IRfishchild)/BWchild + (EDadult x IRfishadult)/BWadult, where EDchild is 6 yr, IRshellchild is 0.011 kg/day, BWchild is 15 kg, EDadult is 24 yr, IRshelladult is 0.108 kg/day, and BWadult is 70 kg.

Sources:

U.S. EPA, 1989: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A). OERR. EPA/540/1-89/002.

U.S. EPA, 1991: Risk Assessment Guidance for Superfund, Volume 1. Human Health Evaluation Manual, Supplemental Guidance Exposure Factors, Draft Final. OSWER Directive 9285.6-03.

U.S. EPA, 1997: Exposure Factors Handbook. Office of Research and Development, Washington, DC. EPA/600/P-95/002Fb.

U.S. EPA, 2004: U.S. EPA Region 9 Preliminary Remediation Goal Tables. www.epa.gov/region09/waste/sfund/prg.

San Francisco Estuary Institute (SFEI). 2002. Public Summary of the San Francisco Bay Seafood Consumption Study. March. Available at http://www.sfei.org/rmp/index.html.

Table 5.1. Non-Cancer Toxicity Data – Oral/Dermal for Breakwater Beach

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s) (a)	Date(s)
Ag	Chronic	5.0E-03	mg/kg-day	N/A	N/A	N/A	N/A	3	IRIS	10/28/05
As	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	liver/kidney/bladder	3	IRIS	10/28/05
Cd	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	kidney	10	IRIS	10/28/05
Cr (b)	Chronic	3.0E-03	mg/kg-day	N/A	N/A	N/A	liver/kidney	300	IRIS	10/28/05
Cu	Chronic	3.7E-02	mg/kg-day	N/A	N/A	N/A	gastrointestinal	N/A	HEAST	10/28/05
Hg (b)	Chronic	1.0E-04	mg/kg-day	N/A	N/A	N/A	developmental	10	IRIS	10/28/05
Ni	Chronic	2.0E-02	mg/kg-day	N/A	N/A	N/A	skin/kidney/reproductive	300	IRIS	10/28/05
Sb	Chronic	4.0E-04	mg/kg-day	N/A	N/A	N/A	blood	1000	IRIS	10/28/05
Se	Chronic	5.0E-03	mg/kg-day	N/A	N/A	N/A	N/A	3	IRIS	10/28/05
Zn	Chronic	3.0E-01	mg/kg-day	N/A	N/A	N/A	blood	3	IRIS	10/28/05
Acenaphthene	Chronic	6.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	Chronic	3.0E-01	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	Chronic	4.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Fluorene	Chronic	4.0E-02	mg/kg-day	N/A	N/A	N/A	liver	3000	IRIS	10/28/05
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	N/A	N/A	N/A	lung	1000	IRIS	10/28/05
Naphthalene	Chronic	2.0E-02	mg/kg-day	N/A	N/A	N/A	liver/CNS	3000	IRIS	10/28/05
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 5.1. Non-Cancer Toxicity Data -- Oral/Dermal for Breakwater Beach, continued

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
Pyrene	Chronic	3.0E-02	mg/kg-day	N/A	N/A	N/A	kidneys	3000	IRIS	10/28/05
2,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4'-DDT	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	CNS/reproductive/liver	100	IRIS	10/28/05
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	CNS/reproductive/liver	100	IRIS	10/28/05
alpha-Chlordane (b)	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	liver	300	IRIS	10/28/05
Dieldrin	Chronic	5.0E-05	mg/kg-day	N/A	N/A	N/A	liver/CNS	100	IRIS	10/28/05
Endosulfan II	Chronic	6.0E-03	mg/kg-day	N/A	N/A	N/A	Immune system/liver	100	IRIS	10/28/05
gamma-BHC	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	liver/kidney	1000	IRIS	06/05/06
gamma-Chlordane (b)	Chronic	5.0E-04	mg/kg-day	N/A	N/A	N/A	liver	300	IRIS	10/28/05
Total PCBs	Chronic	2.0E-05	mg/kg-day	N/A	N/A	N/A	CNS/immune system/liver	300	IRIS	10/28/05
TBT	Chronic	3.0E-04	mg/kg-day	N/A	N/A	N/A	Immune system	100	IRIS	10/28/05

N/A = Not Applicable

CNS = central nervous system

(a) The more conservative value was used.

(b) Toxicity values for methylmercury, chromium (IV), and technical chlordane were applied.

Table 6.1. Cancer Toxicity Data -- Oral/Dermal Breakwater Beach

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s) (a)	Date(s)
Ag	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
As	9.45E+00	(mg/kg-day)-1	N/A	N/A	N/A	A	OEHHA	10/28/05
Cd	3.80E-01	(mg/kg-day)-1	N/A	N/A	N/A	B1	OEHHA	10/28/05
Cr (b)	1.90E-01	(mg/kg-day)-1	N/A	N/A	N/A	A, K (inhalation), D (oral)	OEHHA	10/28/05
Cu	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Hg (b)	N/A	N/A	N/A	N/A	N/A	D, C (MeHg)	N/A	N/A
Ni	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sb	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Zn	N/A	N/A	N/A	N/A	N/A	I	N/A	N/A
Acenaphthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Anthracene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Benzo(a)anthracene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(a)pyrene	1.20E+01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(b)fluoranthene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Benzo(k)fluoranthene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Chrysene	1.20E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Dibenz(a,h)anthracene	4.10E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
Fluoranthene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Fluorene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
Indeno(1,2,3-cd)pyrene	1.20E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	I	N/A	N/A
Naphthalene	1.20E-01	(mg/kg-day)-1	N/A	N/A	N/A	C, I	OEHHA	10/28/05
Phenanthrene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A

Table 6.1. Cancer Toxicity Data -- Oral/Dermal Breakwater Beach, continued

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s) (a)	Date(s) (MM/DD/YYYY)
Pyrene	N/A	N/A	N/A	N/A	N/A	D	N/A	N/A
2,4'-DDD	2.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
2,4'-DDE	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
2,4'-DDT	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	IRIS	10/28/05
4,4'-DDD	2.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
4,4'-DDE	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
4,4'-DDT	3.40E-01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
alpha-Chlordane [(b)]	1.30E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2, K	OEHHA	10/28/05
Dieldrin	1.60E+01	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA/IRIS	10/28/05
Endosulfan II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
gamma-BHC	1.10E+00	(mg/kg-day)-1	N/A	N/A	N/A	N/A	OEHHA	10/28/05
gamma-Chlordane [(b)]	1.30E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2, K	OEHHA/IRIS	10/28/05
Total PCBs	5.00E+00	(mg/kg-day)-1	N/A	N/A	N/A	B2	OEHHA	10/28/05
TBT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not Applicable
OEHHA = California Office of Environmental Health Hazard Assessment
IRIS = Integrated Risk Information System

HEAST = Health Effects Assessment Summary Tables
(a) When more than one source exists, the more conservative value was used.
(b) Toxicity values for methylmercury, chromium (IV), and technical chlordane were applied.

1986 EPA Classification:
- A - Human Carcinogen
- B1 - Probable human carcinogen - indicates that limited human data are available
- B2 – Probable human carcinogen – indicates sufficient evidence in animals and inadequate or no evidence in humans
- C - Possible human carcinogen
- D - Not classifiable as a human carcinogen
- E - Evidence of noncarcinogenicity

1996 EPA Classification:
- K - Known/Likely
- CBD - Cannot be Determined
- UL - Not Likely

2005 Classification
- CaH - Carcinogenic to Humans
- LH - Likely to be Carcinogenic to Humans
- S - Suggestive Evidence of Carcinogenic Potential
- I - Inadequate Information to Assess Carcinogenic Potential
- NL - Not Likely to be Carcinogenic to Humans

Table 7.1.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Breakwater Beach	Combined (Ingestion and Dermal)	Ag	4.72E-01	mg/kg dry	8.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.5E-09	mg/kg-day	5.0E-03	mg/kg-day	1.3E-06
				As	7.89E+00	mg/kg dry	1.6E-08	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.5E-07	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	4.1E-04
				Cd	1.81E-01	mg/kg dry	3.0E-10	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.1E-10	2.3E-09	mg/kg-day	5.0E-04	mg/kg-day	4.6E-06
				Cr	9.65E+01	mg/kg dry	1.6E-07	mg/kg-day	1.9E-01	(mg/kg-day)-1	3.0E-08	1.2E-06	mg/kg-day	3.0E-03	mg/kg-day	4.1E-04
				Cu	4.65E+01	mg/kg dry	8.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.4E-07	mg/kg-day	3.7E-02	mg/kg-day	1.7E-05
				Hg	3.24E-01	mg/kg dry	5.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-09	mg/kg-day	1.0E-04	mg/kg-day	4.5E-05
				Ni	6.57E+01	mg/kg dry	1.2E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.0E-07	mg/kg-day	2.0E-02	mg/kg-day	4.5E-05
				Sb	9.28E-01	mg/kg dry	1.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	4.0E-04	mg/kg-day	3.2E-05
				Se	6.81E-01	mg/kg dry	1.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.3E-09	mg/kg-day	5.0E-03	mg/kg-day	1.9E-06
				Zn	1.20E+02	mg/kg dry	2.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-06	mg/kg-day	3.0E-01	mg/kg-day	5.5E-06
				Acenaphthene	<8.74E-02>	mg/kg dry	3.1E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-09	mg/kg-day	6.0E-02	mg/kg-day	4.1E-08
				Acenaphthylene	<3.70E-02>	mg/kg dry	1.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.47E-01	mg/kg dry	5.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.1E-09	mg/kg-day	3.0E-01	mg/kg-day	1.4E-08
				Benzo(a)anthracene	2.12E-01	mg/kg dry	7.6E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	9.1E-10	5.9E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.31E-01	mg/kg dry	8.3E-10	mg/kg-day	1.2E+01	(mg/kg-day)-1	9.9E-09	6.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.65E-01	mg/kg dry	9.5E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.1E-09	7.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.64E-01	mg/kg dry	5.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.68E-01	mg/kg dry	6.0E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.2E-10	4.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	2.39E-01	mg/kg dry	8.6E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.0E-10	6.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	<3.05E-02>	mg/kg dry	1.1E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	4.5E-10	8.5E-10	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	4.13E-01	mg/kg dry	1.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-08	mg/kg-day	4.0E-02	mg/kg-day	2.9E-07
				Fluorene	<1.08E-01>	mg/kg dry	3.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-09	mg/kg-day	4.0E-02	mg/kg-day	7.5E-08
				Indeno(1,2,3-cd)pyrene	1.60E-01	mg/kg dry	5.8E-10	mg/kg-day	1.2E+00	(mg/kg-day)-1	6.9E-10	4.5E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<2.10E-02>	mg/kg dry	7.5E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.9E-10	mg/kg-day	4.0E-03	mg/kg-day	1.5E-07
				Naphthalene	<2.98E-02>	mg/kg dry	1.1E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.3E-11	8.3E-10	mg/kg-day	2.0E-02	mg/kg-day	4.2E-08
				Phenanthrene	2.19E-01	mg/kg dry	7.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	4.41E-01	mg/kg dry	1.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-08	mg/kg-day	3.0E-02	mg/kg-day	4.1E-07
				2,4'-DDD	9.29E-04	mg/kg dry	2.1E-12	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.1E-13	1.7E-11	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	<1.37E-04>	mg/kg dry	3.1E-13	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.1E-13	2.4E-12	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDT	<2.27E-04>	mg/kg dry	5.2E-13	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.8E-13	4.0E-12	mg/kg-day	5.0E-04	mg/kg-day	8.1E-09
				4,4'-DDD	<1.86E-03>	mg/kg dry	4.2E-12	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.0E-12	3.3E-11	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	<1.56E-03>	mg/kg dry	3.6E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.2E-12	2.8E-11	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	<2.10E-03>	mg/kg dry	4.8E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.6E-12	3.7E-11	mg/kg-day	5.0E-04	mg/kg-day	7.5E-08
				alpha-Chlordane	<1.91E-04>	mg/kg dry	4.4E-13	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.7E-13	3.4E-12	mg/kg-day	5.0E-04	mg/kg-day	6.8E-09
				Dieldrin	<6.22E-04>	mg/kg dry	1.4E-12	mg/kg-day	1.6E+01	(mg/kg-day)-1	2.3E-11	1.1E-11	mg/kg-day	5.0E-05	mg/kg-day	2.2E-07
				Endosulfan II	3.91E-03	mg/kg dry	8.9E-12	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-11	mg/kg-day	6.0E-03	mg/kg-day	1.2E-08
				gamma-BHC	>1.77E-03<	mg/kg dry	4.0E-12	mg/kg-day	1.1E+00	(mg/kg-day)-1	4.5E-12	3.1E-11	mg/kg-day	3.0E-04	mg/kg-day	1.0E-07
				gamma-Chlordane	<1.11E-03>	mg/kg dry	2.5E-12	mg/kg-day	1.3E+00	(mg/kg-day)-1	3.3E-12	2.0E-11	mg/kg-day	5.0E-04	mg/kg-day	3.9E-08
				Total PCBs	2.42E-02	mg/kg dry	8.7E-11	mg/kg-day	5.0E+00	(mg/kg-day)-1	4.3E-10	6.8E-10	mg/kg-day	2.0E-05	mg/kg-day	3.4E-05
				TBT	3.07E-03	mg/kg dry	9.0E-12	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-11	mg/kg-day	3.0E-04	mg/kg-day	2.3E-07
			Exp. Route Total								2.0E-07					1.0E-03
		Exposure Point Total									2.0E-07					1.0E-03
	Exposure Medium Total										2.0E-07					1.0E-03
	Fish Tissue	Shellfish in Breakwater Beach	Ingestion	Ag	4.70E-02	mg/kg wet	3.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-07	mg/kg-day	5.0E-03	mg/kg-day	5.4E-05
				As	4.57E+00	mg/kg wet	3.4E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	3.2E-05	2.6E-05	mg/kg-day	3.0E-04	mg/kg-day	8.7E-02
				Cd	4.77E-02	mg/kg wet	3.5E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.3E-08	2.7E-07	mg/kg-day	5.0E-04	mg/kg-day	5.5E-04
				Cr	8.40E+00	mg/kg wet	6.2E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.2E-06	4.8E-05	mg/kg-day	3.0E-03	mg/kg-day	1.6E-02
				Cu	<2.86E+00>	mg/kg wet	2.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-05	mg/kg-day	3.7E-02	mg/kg-day	4.4E-04
				Hg	<1.10E-02>	mg/kg wet	8.0E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.3E-08	mg/kg-day	1.0E-04	mg/kg-day	6.3E-04
				Ni	5.67E+00	mg/kg wet	4.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-05	mg/kg-day	2.0E-02	mg/kg-day	1.6E-03
				Sb	<9.02E-03>	mg/kg wet	6.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-08	mg/kg-day	4.0E-04	mg/kg-day	1.3E-04
				Se	5.72E-01	mg/kg wet	4.2E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-06	mg/kg-day	5.0E-03	mg/kg-day	6.5E-04
				Zn	1.97E+01	mg/kg wet	1.4E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-04	mg/kg-day	3.0E-01	mg/kg-day	3.7E-04
				Acenaphthene	6.89E-04	mg/kg wet	5.1E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.9E-09	mg/kg-day	6.0E-02	mg/kg-day	6.6E-08
				Acenaphthylene	2.35E-03	mg/kg wet	1.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.18E-02	mg/kg wet	8.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.7E-08	mg/kg-day	3.0E-01	mg/kg-day	2.2E-07
				Benzo(a)anthracene	<6.72E-02>	mg/kg wet	4.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	5.9E-08	3.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.13E-02	mg/kg wet	1.6E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.9E-07	1.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	<5.66E-02>	mg/kg wet	4.2E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	5.0E-08	3.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	6.41E-03	mg/kg wet	4.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.55E-02	mg/kg wet	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-08	8.9E-08	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Chrysene	<4.60E-02>	mg/kg wet	3.4E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.1E-09	2.6E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	9.31E-04	mg/kg wet	6.8E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.8E-09	5.3E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	<1.45E-01>	mg/kg wet	1.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.3E-07	mg/kg-day	4.0E-02	mg/kg-day	2.1E-05
				Fluorene	<9.55E-04>	mg/kg wet	7.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.5E-09	mg/kg-day	4.0E-02	mg/kg-day	1.4E-07
				Indeno(1,2,3-cd)pyrene	5.08E-03	mg/kg wet	3.7E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.5E-09	2.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-03	mg/kg-day	N/A
				Naphthalene	<1.31E-03>	mg/kg wet	9.6E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.2E-10	7.5E-09	mg/kg-day	2.0E-02	mg/kg-day	3.7E-07
				Phenanthrene	4.32E-03	mg/kg wet	3.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	<2.30E-01>	mg/kg wet	1.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-06	mg/kg-day	3.0E-02	mg/kg-day	4.4E-05
				2,4'-DDD	<3.01E-04>	mg/kg wet	2.2E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.3E-11	1.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	2.61E-05	mg/kg wet	1.9E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.5E-12	1.5E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.05E-04	mg/kg wet	7.7E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.6E-11	6.0E-10	mg/kg-day	5.0E-04	mg/kg-day	1.2E-06
				4,4'-DDD	1.19E-03	mg/kg wet	8.7E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.1E-10	6.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.69E-03	mg/kg wet	1.2E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.2E-10	9.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	3.56E-04	mg/kg wet	2.6E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	8.9E-11	2.0E-09	mg/kg-day	5.0E-04	mg/kg-day	4.1E-06
				alpha-Chlordane	1.54E-04	mg/kg wet	1.1E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.5E-10	8.8E-10	mg/kg-day	5.0E-04	mg/kg-day	1.8E-06
				Dieldrin	<3.54E-04>	mg/kg wet	2.6E-10	mg/kg-day	1.6E+01	(mg/kg-day)-1	4.2E-09	2.0E-09	mg/kg-day	5.0E-05	mg/kg-day	4.0E-05
				Endosulfan II	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-03	mg/kg-day	N/A
				gamma-BHC	<2.65E-04>	mg/kg wet	1.9E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	2.1E-10	1.5E-09	mg/kg-day	3.0E-04	mg/kg-day	5.1E-06
				gamma-Chlordane	1.03E-03	mg/kg wet	7.5E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	9.8E-10	5.9E-09	mg/kg-day	5.0E-04	mg/kg-day	1.2E-05
				Total PCBs	1.70E-02	mg/kg wet	1.2E-08	mg/kg-day	5.0E+00	(mg/kg-day)-1	6.2E-08	9.7E-08	mg/kg-day	2.0E-05	mg/kg-day	4.8E-03
				TBT	2.96E-03	mg/kg wet	2.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-08	mg/kg-day	3.0E-04	mg/kg-day	5.6E-05
			Exp. Route Total								3.3E-05					1.1E-01
		Exposure Point Total									3.3E-05					1.1E-01
		Forage Fish in Breakwater Beach	Ingestion	Ag	2.12E-03	mg/kg wet	3.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-07	mg/kg-day	5.0E-03	mg/kg-day	4.9E-05
				As	2.35E-01	mg/kg wet	3.5E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	3.3E-05	2.7E-05	mg/kg-day	3.0E-04	mg/kg-day	9.0E-02
				Cd	7.06E-04	mg/kg wet	1.0E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	3.9E-09	8.1E-08	mg/kg-day	5.0E-04	mg/kg-day	1.6E-04
				Cr	2.51E-01	mg/kg wet	3.7E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	7.0E-07	2.9E-05	mg/kg-day	3.0E-03	mg/kg-day	9.6E-03
				Cu	6.75E-01	mg/kg wet	9.9E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.7E-05	mg/kg-day	3.7E-02	mg/kg-day	2.1E-03
				Hg	1.44E-02	mg/kg wet	2.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-06	mg/kg-day	1.0E-04	mg/kg-day	1.6E-02
				Ni	7.23E-02	mg/kg wet	1.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.3E-06	mg/kg-day	2.0E-02	mg/kg-day	4.1E-04
				Sb	9.28E-04	mg/kg wet	1.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-07	mg/kg-day	4.0E-04	mg/kg-day	2.7E-04

Table 7.1.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Se	2.35E-01	mg/kg wet	3.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-05	mg/kg-day	5.0E-03	mg/kg-day	5.4E-03
				Zn	7.73E+00	mg/kg wet	1.1E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.8E-04	mg/kg-day	3.0E-01	mg/kg-day	2.9E-03
				Acenaphthene	2.32E-03	mg/kg wet	3.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-07	mg/kg-day	6.0E-02	mg/kg-day	4.4E-06
				Acenaphthylene	5.18E-05	mg/kg wet	7.6E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.9E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	7.04E-04	mg/kg wet	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.0E-08	mg/kg-day	3.0E-01	mg/kg-day	2.7E-07
				Benzo(a)anthracene	4.02E-04	mg/kg wet	5.9E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.1E-09	4.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	3.23E-04	mg/kg wet	4.7E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	5.7E-08	3.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	3.98E-04	mg/kg wet	5.8E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.0E-09	4.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.79E-04	mg/kg wet	4.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	4.37E-04	mg/kg wet	6.4E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.7E-09	5.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	9.30E-04	mg/kg wet	1.4E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.6E-09	1.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	1.83E-05	mg/kg wet	2.7E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	1.1E-09	2.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	2.85E-03	mg/kg wet	4.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-07	mg/kg-day	4.0E-02	mg/kg-day	8.1E-06
				Fluorene	1.57E-03	mg/kg wet	2.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-07	mg/kg-day	4.0E-02	mg/kg-day	4.5E-06
				Indeno(1,2,3-cd)pyrene	2.09E-04	mg/kg wet	3.1E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.7E-09	2.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	9.24E-05	mg/kg wet	1.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-08	mg/kg-day	4.0E-03	mg/kg-day	2.6E-06
				Naphthalene	2.18E-04	mg/kg wet	3.2E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.8E-10	2.5E-08	mg/kg-day	2.0E-02	mg/kg-day	1.2E-06
				Phenanthrene	4.12E-03	mg/kg wet	6.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.50E-03	mg/kg wet	2.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	3.0E-02	mg/kg-day	5.7E-06
				2,4'-DDD	3.81E-06	mg/kg wet	5.6E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.3E-11	4.4E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	3.54E-05	mg/kg wet	5.2E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.8E-10	4.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.57E-05	mg/kg wet	2.3E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.8E-11	1.8E-09	mg/kg-day	5.0E-04	mg/kg-day	3.6E-06
				4,4'-DDD	9.56E-04	mg/kg wet	1.4E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	3.4E-09	1.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.98E-03	mg/kg wet	2.9E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	9.9E-09	2.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.54E-04	mg/kg wet	3.7E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.3E-09	2.9E-08	mg/kg-day	5.0E-04	mg/kg-day	5.8E-05
				alpha-Chlordane	6.76E-05	mg/kg wet	9.9E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.3E-09	7.7E-09	mg/kg-day	5.0E-04	mg/kg-day	1.5E-05
				Dieldrin	1.43E-04	mg/kg wet	2.1E-09	mg/kg-day	1.6E+01	(mg/kg-day)-1	3.4E-08	1.6E-08	mg/kg-day	5.0E-05	mg/kg-day	3.3E-04
				Endosulfan II	3.56E-05	mg/kg wet	5.2E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.1E-09	mg/kg-day	6.0E-03	mg/kg-day	6.8E-07
				gamma-BHC	2.28E-05	mg/kg wet	3.4E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	3.7E-10	2.6E-09	mg/kg-day	3.0E-04	mg/kg-day	8.7E-06
				gamma-Chlordane	1.31E-04	mg/kg wet	1.9E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.5E-09	1.5E-08	mg/kg-day	5.0E-04	mg/kg-day	3.0E-05
				Total PCBs	1.63E-02	mg/kg wet	2.4E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.2E-06	1.9E-06	mg/kg-day	2.0E-05	mg/kg-day	9.3E-02

Table 7.1.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				TBT	3.85E-03	mg/kg wet	5.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
			Exp. Route Total								3.5E-05					2.2E-01
		Exposure Point Total									3.5E-05					2.2E-01
	Exposure Medium Total										6.8E-05					3.3E-01
Medium Total											6.8E-05					3.4E-01
										Total of Receptor Risks Across All Media	6.8E-05				Total of Receptor Hazards Across All Media	3.4E-01

Table 7.2.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Breakwater Beach	Combined (Ingestion and Dermal)	Ag	4.72E-01	mg/kg dry	5.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.9E-08	mg/kg-day	5.0E-03	mg/kg-day	1.2E-05
				As	7.89E+00	mg/kg dry	9.4E-08	mg/kg-day	9.5E+00	(mg/kg-day)-1	8.9E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.6E-03
				Cd	1.81E-01	mg/kg dry	1.9E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	7.0E-10	2.2E-08	mg/kg-day	5.0E-04	mg/kg-day	4.3E-05
				Cr	9.65E+01	mg/kg dry	9.8E-07	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.9E-07	1.1E-05	mg/kg-day	3.0E-03	mg/kg-day	3.8E-03
				Cu	4.65E+01	mg/kg dry	5.0E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.8E-06	mg/kg-day	3.7E-02	mg/kg-day	1.6E-04
				Hg	3.24E-01	mg/kg dry	3.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.1E-08	mg/kg-day	1.0E-04	mg/kg-day	4.1E-04
				Ni	6.57E+01	mg/kg dry	7.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.2E-06	mg/kg-day	2.0E-02	mg/kg-day	4.1E-04
				Sb	9.28E-01	mg/kg dry	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-07	mg/kg-day	4.0E-04	mg/kg-day	2.9E-04
				Se	6.81E-01	mg/kg dry	7.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.5E-08	mg/kg-day	5.0E-03	mg/kg-day	1.7E-05
				Zn	1.20E+02	mg/kg dry	1.3E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-05	mg/kg-day	3.0E-01	mg/kg-day	5.0E-05
				Acenaphthene	<8.74E-02>	mg/kg dry	1.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.9E-08	mg/kg-day	6.0E-02	mg/kg-day	3.2E-07
				Acenaphthylene	<3.70E-02>	mg/kg dry	6.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.1E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.47E-01	mg/kg dry	2.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-08	mg/kg-day	3.0E-01	mg/kg-day	1.1E-07
				Benzo(a)anthracene	2.12E-01	mg/kg dry	4.0E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.8E-09	4.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.31E-01	mg/kg dry	4.3E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	5.2E-08	5.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.65E-01	mg/kg dry	5.0E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	6.0E-09	5.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.64E-01	mg/kg dry	3.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.68E-01	mg/kg dry	3.1E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.8E-09	3.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	2.39E-01	mg/kg dry	4.5E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	5.4E-10	5.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	<3.05E-02>	mg/kg dry	5.7E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.3E-09	6.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	4.13E-01	mg/kg dry	7.7E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.0E-08	mg/kg-day	4.0E-02	mg/kg-day	2.3E-06
				Fluorene	<1.08E-01>	mg/kg dry	2.0E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-08	mg/kg-day	4.0E-02	mg/kg-day	5.9E-07
				Indeno(1,2,3-cd)pyrene	1.60E-01	mg/kg dry	3.0E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.6E-09	3.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<2.10E-02>	mg/kg dry	3.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.6E-09	mg/kg-day	4.0E-03	mg/kg-day	1.1E-06
				Naphthalene	<2.98E-02>	mg/kg dry	5.6E-10	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.7E-11	6.5E-09	mg/kg-day	2.0E-02	mg/kg-day	3.3E-07
				Phenanthrene	2.19E-01	mg/kg dry	4.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	4.41E-01	mg/kg dry	8.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.6E-08	mg/kg-day	3.0E-02	mg/kg-day	3.2E-06
				2,4'-DDD	9.29E-04	mg/kg dry	1.2E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.9E-12	1.4E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	<1.37E-04>	mg/kg dry	1.8E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.0E-13	2.1E-11	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC Value	EPC Units	Cancer Risk Calculations: Intake/Exposure Concentration Value	Intake/Exposure Concentration Units	CSF/Unit Risk Value	CSF/Unit Risk Units	Cancer Risk	Non-Cancer Hazard Calculations: Intake/Exposure Concentration Value	Intake/Exposure Concentration Units	RfD/RfC Value	RfD/RfC Units	Hazard Quotient
				2,4'-DDT	<2.27E-04>	mg/kg dry	3.0E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.0E-12	3.4E-11	mg/kg-day	5.0E-04	mg/kg-day	6.9E-08
				4,4'-DDD	<1.86E-03>	mg/kg dry	2.4E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.8E-12	2.8E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	<1.56E-03>	mg/kg dry	2.0E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.9E-12	2.4E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	<2.10E-03>	mg/kg dry	2.7E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	9.3E-12	3.2E-10	mg/kg-day	5.0E-04	mg/kg-day	6.4E-07
				alpha-Chlordane	<1.91E-04>	mg/kg dry	2.5E-12	mg/kg-day	1.3E+00	(mg/kg-day)-1	3.2E-12	2.9E-11	mg/kg-day	5.0E-04	mg/kg-day	5.8E-08
				Dieldrin	<6.22E-04>	mg/kg dry	8.1E-12	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.3E-10	9.5E-11	mg/kg-day	5.0E-05	mg/kg-day	1.9E-06
				Endosulfan II	3.91E-03	mg/kg dry	5.1E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.9E-10	mg/kg-day	6.0E-03	mg/kg-day	9.9E-08
				gamma-BHC	>1.77E-03<	mg/kg dry	2.3E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	2.5E-11	2.7E-10	mg/kg-day	3.0E-04	mg/kg-day	9.0E-07
				gamma-Chlordane	<1.11E-03>	mg/kg dry	1.4E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.9E-11	1.7E-10	mg/kg-day	5.0E-04	mg/kg-day	3.4E-07
				Total PCBs	2.42E-02	mg/kg dry	4.5E-10	mg/kg-day	5.0E+00	(mg/kg-day)-1	2.3E-09	5.3E-09	mg/kg-day	2.0E-05	mg/kg-day	2.6E-04
				TBT	3.07E-03	mg/kg dry	4.9E-11	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.7E-10	mg/kg-day	3.0E-04	mg/kg-day	1.9E-06
			Exp. Route Total								1.1E-06					9.1E-03
		Exposure Point Total									1.1E-06					9.1E-03
	Exposure Medium Total										1.1E-06					9.1E-03
	Fish Tissue	Forage Fish in Breakwater Beach	Ingestion	Ag	2.12E-03	mg/kg wet	3.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.0E-07	mg/kg-day	5.0E-03	mg/kg-day	7.9E-05
				As	2.35E-01	mg/kg wet	3.8E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	3.6E-05	4.4E-05	mg/kg-day	3.0E-04	mg/kg-day	1.5E-01
				Cd	7.06E-04	mg/kg wet	1.1E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	4.3E-09	1.3E-07	mg/kg-day	5.0E-04	mg/kg-day	2.6E-04
				Cr	2.51E-01	mg/kg wet	4.0E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	7.6E-07	4.7E-05	mg/kg-day	3.0E-03	mg/kg-day	1.6E-02
				Cu	6.75E-01	mg/kg wet	1.1E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-04	mg/kg-day	3.7E-02	mg/kg-day	3.4E-03
				Hg	1.44E-02	mg/kg wet	2.3E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-06	mg/kg-day	1.0E-04	mg/kg-day	2.7E-02
				Ni	7.23E-02	mg/kg wet	1.2E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-05	mg/kg-day	2.0E-02	mg/kg-day	6.7E-04
				Sb	9.28E-04	mg/kg wet	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-07	mg/kg-day	4.0E-04	mg/kg-day	4.3E-04
				Se	2.35E-01	mg/kg wet	3.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-05	mg/kg-day	5.0E-03	mg/kg-day	8.8E-03
				Zn	7.73E+00	mg/kg wet	1.2E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-03	mg/kg-day	3.0E-01	mg/kg-day	4.8E-03
				Acenaphthene	2.32E-03	mg/kg wet	3.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.3E-07	mg/kg-day	6.0E-02	mg/kg-day	7.2E-06
				Acenaphthylene	5.18E-05	mg/kg wet	8.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	7.04E-04	mg/kg wet	1.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-07	mg/kg-day	3.0E-01	mg/kg-day	4.4E-07
				Benzo(a)anthracene	4.02E-04	mg/kg wet	6.4E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.7E-09	7.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	3.23E-04	mg/kg wet	5.2E-09	mg/kg-day	1.2E+01	(mg/kg-day)-1	6.2E-08	6.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	3.98E-04	mg/kg wet	6.4E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	7.6E-09	7.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.79E-04	mg/kg wet	4.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	4.37E-04	mg/kg wet	7.0E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	8.4E-09	8.2E-08	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.CT. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Central Tendency Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Chrysene	9.30E-04	mg/kg wet	1.5E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.8E-09	1.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	1.83E-05	mg/kg wet	2.9E-10	mg/kg-day	4.1E+00	(mg/kg-day)-1	1.2E-09	3.4E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	2.85E-03	mg/kg wet	4.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.3E-07	mg/kg-day	4.0E-02	mg/kg-day	1.3E-05
				Fluorene	1.57E-03	mg/kg wet	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.9E-07	mg/kg-day	4.0E-02	mg/kg-day	7.3E-06
				Indeno(1,2,3-cd)pyrene	2.09E-04	mg/kg wet	3.3E-09	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.0E-09	3.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	9.24E-05	mg/kg wet	1.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-08	mg/kg-day	4.0E-03	mg/kg-day	4.3E-06
				Naphthalene	2.18E-04	mg/kg wet	3.5E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.2E-10	4.1E-08	mg/kg-day	2.0E-02	mg/kg-day	2.0E-06
				Phenanthrene	4.12E-03	mg/kg wet	6.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.50E-03	mg/kg wet	2.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-07	mg/kg-day	3.0E-02	mg/kg-day	9.3E-06
				2,4'-DDD	3.81E-06	mg/kg wet	6.1E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.5E-11	7.1E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	3.54E-05	mg/kg wet	5.7E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.9E-10	6.6E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.57E-05	mg/kg wet	2.5E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	8.5E-11	2.9E-09	mg/kg-day	5.0E-04	mg/kg-day	5.8E-06
				4,4'-DDD	9.56E-04	mg/kg wet	1.5E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	3.7E-09	1.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.98E-03	mg/kg wet	3.2E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.1E-08	3.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.54E-04	mg/kg wet	4.1E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.4E-09	4.7E-08	mg/kg-day	5.0E-04	mg/kg-day	9.5E-05
				alpha-Chlordane	6.76E-05	mg/kg wet	1.1E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.4E-09	1.3E-08	mg/kg-day	5.0E-04	mg/kg-day	2.5E-05
				Dieldrin	1.43E-04	mg/kg wet	2.3E-09	mg/kg-day	1.6E+01	(mg/kg-day)-1	3.7E-08	2.7E-08	mg/kg-day	5.0E-05	mg/kg-day	5.3E-04
				Endosulfan II	3.56E-05	mg/kg wet	5.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.6E-09	mg/kg-day	6.0E-03	mg/kg-day	1.1E-06
				gamma-BHC	2.28E-05	mg/kg wet	3.7E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	4.0E-10	4.3E-09	mg/kg-day	3.0E-04	mg/kg-day	1.4E-05
				gamma-Chlordane	1.31E-04	mg/kg wet	2.1E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.7E-09	2.4E-08	mg/kg-day	5.0E-04	mg/kg-day	4.9E-05
				Total PCBs	1.63E-02	mg/kg wet	2.6E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.3E-06	3.0E-06	mg/kg-day	2.0E-05	mg/kg-day	1.5E-01
				TBT	3.85E-03	mg/kg wet	6.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2.4E-03
			Exp. Route Total								3.8E-05					3.6E-01
		Exposure Point Total									3.8E-05					3.6E-01
	Exposure Medium Total										3.8E-05					3.6E-01
Medium Total											3.9E-05					3.7E-01
										Total of Receptor Risks Across All Media	3.9E-05				Total of Receptor Hazards Across All Media	3.7E-01

Table 7.1.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Breakwater Beach	Combined (Ingestion and Dermal)	Ag	4.72E-01	mg/kg dry	2.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.0E-08	mg/kg-day	5.0E-03	mg/kg-day	1.0E-05
				As	7.89E+00	mg/kg dry	3.9E-07	mg/kg-day	9.5E+00	(mg/kg-day)-1	3.6E-06	9.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03
				Cd	1.81E-01	mg/kg dry	7.9E-09	mg/kg-day	3.8E-01	(mg/kg-day)-1	3.0E-09	1.8E-08	mg/kg-day	5.0E-04	mg/kg-day	3.7E-05
				Cr	9.65E+01	mg/kg dry	4.2E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	8.0E-07	9.8E-06	mg/kg-day	3.0E-03	mg/kg-day	3.3E-03
				Cu	4.65E+01	mg/kg dry	2.1E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.9E-06	mg/kg-day	3.7E-02	mg/kg-day	1.3E-04
				Hg	3.24E-01	mg/kg dry	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.4E-08	mg/kg-day	1.0E-04	mg/kg-day	3.4E-04
				Ni	6.57E+01	mg/kg dry	3.0E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-06	mg/kg-day	2.0E-02	mg/kg-day	3.5E-04
				Sb	9.28E-01	mg/kg dry	4.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.8E-08	mg/kg-day	4.0E-04	mg/kg-day	2.5E-04
				Se	6.81E-01	mg/kg dry	3.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-08	mg/kg-day	5.0E-03	mg/kg-day	1.4E-05
				Zn	1.20E+02	mg/kg dry	5.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.3E-05	mg/kg-day	3.0E-01	mg/kg-day	4.2E-05
				Acenaphthene	<8.74E-02>	mg/kg dry	6.1E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-08	mg/kg-day	6.0E-02	mg/kg-day	2.4E-07
				Acenaphthylene	<3.70E-02>	mg/kg dry	2.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.47E-01	mg/kg dry	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-08	mg/kg-day	3.0E-01	mg/kg-day	7.9E-08
				Benzo(a)anthracene	2.12E-01	mg/kg dry	1.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.8E-08	3.4E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.31E-01	mg/kg dry	1.6E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	1.9E-07	3.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.65E-01	mg/kg dry	1.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.2E-08	4.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.64E-01	mg/kg dry	1.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.68E-01	mg/kg dry	1.2E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.4E-08	2.7E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	2.39E-01	mg/kg dry	1.7E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.0E-09	3.9E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	<3.05E-02>	mg/kg dry	2.1E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	8.7E-09	5.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	4.13E-01	mg/kg dry	2.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.7E-08	mg/kg-day	4.0E-02	mg/kg-day	1.7E-06
				Fluorene	<1.08E-01>	mg/kg dry	7.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-08	mg/kg-day	4.0E-02	mg/kg-day	4.4E-07
				Indeno(1,2,3-cd)pyrene	1.60E-01	mg/kg dry	1.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.3E-08	2.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<2.10E-02>	mg/kg dry	1.5E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.4E-09	mg/kg-day	4.0E-03	mg/kg-day	8.5E-07
				Naphthalene	<2.98E-02>	mg/kg dry	2.1E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.5E-10	4.8E-09	mg/kg-day	2.0E-02	mg/kg-day	2.4E-07
				Phenanthrene	2.19E-01	mg/kg dry	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	4.41E-01	mg/kg dry	3.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.2E-08	mg/kg-day	3.0E-02	mg/kg-day	2.4E-06
				2,4'-DDD	9.29E-04	mg/kg dry	4.9E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.2E-11	1.1E-10	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	<1.37E-04>	mg/kg dry	7.1E-12	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.4E-12	1.7E-11	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDT	<2.27E-04>	mg/kg dry	1.2E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.0E-12	2.8E-11	mg/kg-day	5.0E-04	mg/kg-day	5.5E-08
				4,4'-DDD	<1.86E-03>	mg/kg dry	9.7E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.3E-11	2.3E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	<1.56E-03>	mg/kg dry	8.2E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.8E-11	1.9E-10	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	<2.10E-03>	mg/kg dry	1.1E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.7E-11	2.6E-10	mg/kg-day	5.0E-04	mg/kg-day	5.1E-07
				alpha-Chlordane	<1.91E-04>	mg/kg dry	1.0E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.3E-11	2.3E-11	mg/kg-day	5.0E-04	mg/kg-day	4.7E-08
				Dieldrin	<6.22E-04>	mg/kg dry	3.3E-11	mg/kg-day	1.6E+01	(mg/kg-day)-1	5.2E-10	7.6E-11	mg/kg-day	5.0E-05	mg/kg-day	1.5E-06
				Endosulfan II	3.91E-03	mg/kg dry	2.0E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.8E-10	mg/kg-day	6.0E-03	mg/kg-day	7.9E-08
				gamma-BHC	>1.77E-03<	mg/kg dry	9.3E-11	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.0E-10	2.2E-10	mg/kg-day	3.0E-04	mg/kg-day	7.2E-07
				gamma-Chlordane	<1.11E-03>	mg/kg dry	5.8E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	7.5E-11	1.4E-10	mg/kg-day	5.0E-04	mg/kg-day	2.7E-07
				Total PCBs	2.42E-02	mg/kg dry	1.7E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	8.4E-09	3.9E-09	mg/kg-day	2.0E-05	mg/kg-day	2.0E-04
				TBT	3.07E-03	mg/kg dry	1.9E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-10	mg/kg-day	3.0E-04	mg/kg-day	1.5E-06
			Exp. Route Total								4.7E-06					7.7E-03
		Exposure Point Total									4.7E-06					7.7E-03
	Exposure Medium Total										4.7E-06					7.7E-03
	Fish Tissue	Shellfish in Breakwater Beach	Ingestion	Ag	4.70E-02	mg/kg wet	1.6E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-06	mg/kg-day	5.0E-03	mg/kg-day	7.2E-04
				As	4.57E+00	mg/kg wet	1.5E-04	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.4E-03	3.5E-04	mg/kg-day	3.0E-04	mg/kg-day	1.2E+00
				Cd	4.77E-02	mg/kg wet	1.6E-06	mg/kg-day	3.8E-01	(mg/kg-day)-1	6.0E-07	3.7E-06	mg/kg-day	5.0E-04	mg/kg-day	7.4E-03
				Cr	8.40E+00	mg/kg wet	2.8E-04	mg/kg-day	1.9E-01	(mg/kg-day)-1	5.3E-05	6.5E-04	mg/kg-day	3.0E-03	mg/kg-day	2.2E-01
				Cu	<2.86E+00>	mg/kg wet	9.5E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-04	mg/kg-day	3.7E-02	mg/kg-day	6.0E-03
				Hg	<1.10E-02>	mg/kg wet	3.6E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.4E-07	mg/kg-day	1.0E-04	mg/kg-day	8.4E-03
				Ni	5.67E+00	mg/kg wet	1.9E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-04	mg/kg-day	2.0E-02	mg/kg-day	2.2E-02
				Sb	<9.02E-03>	mg/kg wet	3.0E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.0E-07	mg/kg-day	4.0E-04	mg/kg-day	1.7E-03
				Se	5.72E-01	mg/kg wet	1.9E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-05	mg/kg-day	5.0E-03	mg/kg-day	8.8E-03
				Zn	1.97E+01	mg/kg wet	6.5E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-03	mg/kg-day	3.0E-01	mg/kg-day	5.1E-03
				Acenaphthene	6.89E-04	mg/kg wet	2.3E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.3E-08	mg/kg-day	6.0E-02	mg/kg-day	8.9E-07
				Acenaphthylene	2.35E-03	mg/kg wet	7.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.18E-02	mg/kg wet	3.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.1E-07	mg/kg-day	3.0E-01	mg/kg-day	3.0E-06
				Benzo(a)anthracene	<6.72E-02>	mg/kg wet	2.2E-06	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.7E-06	5.2E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.13E-02	mg/kg wet	7.0E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	8.4E-06	1.6E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	<5.66E-02>	mg/kg wet	1.9E-06	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.2E-06	4.4E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	6.41E-03	mg/kg wet	2.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.55E-02	mg/kg wet	5.1E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	6.2E-07	1.2E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	<4.60E-02>	mg/kg wet	1.5E-06	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.8E-07	3.5E-06	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.1.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Dibenz(a,h)anthracene	9.31E-04	mg/kg wet	3.1E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	1.3E-07	7.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	<1.45E-01>	mg/kg wet	4.8E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-05	mg/kg-day	4.0E-02	mg/kg-day	2.8E-04
				Fluorene	<9.55E-04>	mg/kg wet	3.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	7.4E-08	mg/kg-day	4.0E-02	mg/kg-day	1.8E-06
				Indeno(1,2,3-cd)pyrene	5.08E-03	mg/kg wet	1.7E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.0E-07	3.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-03	mg/kg-day	N/A
				Naphthalene	<1.31E-03>	mg/kg wet	4.3E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	5.2E-09	1.0E-07	mg/kg-day	2.0E-02	mg/kg-day	5.0E-06
				Phenanthrene	4.32E-03	mg/kg wet	1.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	<2.30E-01>	mg/kg wet	7.6E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.8E-05	mg/kg-day	3.0E-02	mg/kg-day	5.9E-04
				2,4'-DDD	<3.01E-04>	mg/kg wet	9.9E-09	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.4E-09	2.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	2.61E-05	mg/kg wet	8.6E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	2.9E-10	2.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.05E-04	mg/kg wet	3.5E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.2E-09	8.1E-09	mg/kg-day	5.0E-04	mg/kg-day	1.6E-05
				4,4'-DDD	1.19E-03	mg/kg wet	3.9E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	9.4E-09	9.2E-08	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.69E-03	mg/kg wet	5.6E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.9E-08	1.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	3.56E-04	mg/kg wet	1.2E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.0E-09	2.7E-08	mg/kg-day	5.0E-04	mg/kg-day	5.5E-05
				alpha-Chlordane	1.54E-04	mg/kg wet	5.1E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	6.6E-09	1.2E-08	mg/kg-day	5.0E-04	mg/kg-day	2.4E-05
				Dieldrin	<3.54E-04>	mg/kg wet	1.2E-08	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.9E-07	2.7E-08	mg/kg-day	5.0E-05	mg/kg-day	5.5E-04
				Endosulfan II	N/A	mg/kg wet	N/A	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-03	mg/kg-day	N/A
				gamma-BHC	<2.65E-04>	mg/kg wet	8.8E-09	mg/kg-day	1.1E+00	(mg/kg-day)-1	9.6E-09	2.0E-08	mg/kg-day	3.0E-04	mg/kg-day	6.8E-05
				gamma-Chlordane	1.03E-03	mg/kg wet	3.4E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	4.4E-08	7.9E-08	mg/kg-day	5.0E-04	mg/kg-day	1.6E-04
				Total PCBs	1.70E-02	mg/kg wet	5.6E-07	mg/kg-day	5.0E+00	(mg/kg-day)-1	2.8E-06	1.3E-06	mg/kg-day	2.0E-05	mg/kg-day	6.5E-02
				TBT	2.96E-03	mg/kg wet	9.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-07	mg/kg-day	3.0E-04	mg/kg-day	7.6E-04
			Exp. Route Total								1.5E-03					1.5E+00
		Exposure Point Total									1.5E-03					1.5E+00
		Forage Fish in Breakwater Beach	Ingestion	Ag	2.12E-03	mg/kg wet	1.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.3E-06	mg/kg-day	5.0E-03	mg/kg-day	6.6E-04
				As	2.35E-01	mg/kg wet	1.6E-04	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.5E-03	3.6E-04	mg/kg-day	3.0E-04	mg/kg-day	1.2E+00
				Cd	7.06E-04	mg/kg wet	4.7E-07	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.8E-07	1.1E-06	mg/kg-day	5.0E-04	mg/kg-day	2.2E-03
				Cr	2.51E-01	mg/kg wet	1.7E-04	mg/kg-day	1.9E-01	(mg/kg-day)-1	3.2E-05	3.9E-04	mg/kg-day	3.0E-03	mg/kg-day	1.3E-01
				Cu	6.75E-01	mg/kg wet	4.5E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.0E-03	mg/kg-day	3.7E-02	mg/kg-day	2.8E-02
				Hg	1.44E-02	mg/kg wet	9.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-05	mg/kg-day	1.0E-04	mg/kg-day	2.2E-01
				Ni	7.23E-02	mg/kg wet	4.8E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-04	mg/kg-day	2.0E-02	mg/kg-day	5.6E-03
				Sb	9.28E-04	mg/kg wet	6.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-06	mg/kg-day	4.0E-04	mg/kg-day	3.6E-03
				Se	2.35E-01	mg/kg wet	1.6E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-04	mg/kg-day	5.0E-03	mg/kg-day	7.2E-02
				Zn	7.73E+00	mg/kg wet	5.1E-03	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-02	mg/kg-day	3.0E-01	mg/kg-day	4.0E-02

Table 7.1.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Acenaphthene	2.32E-03	mg/kg wet	1.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.6E-06	mg/kg-day	6.0E-02	mg/kg-day	6.0E-05
				Acenaphthylene	5.18E-05	mg/kg wet	3.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	8.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	7.04E-04	mg/kg wet	4.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-06	mg/kg-day	3.0E-01	mg/kg-day	3.6E-06
				Benzo(a)anthracene	4.02E-04	mg/kg wet	2.7E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.2E-07	6.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	3.23E-04	mg/kg wet	2.1E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	2.6E-06	5.0E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	3.98E-04	mg/kg wet	2.6E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.2E-07	6.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.79E-04	mg/kg wet	1.8E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	4.37E-04	mg/kg wet	2.9E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.5E-07	6.7E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	9.30E-04	mg/kg wet	6.2E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	7.4E-08	1.4E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	1.83E-05	mg/kg wet	1.2E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	5.0E-08	2.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	2.85E-03	mg/kg wet	1.9E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.4E-06	mg/kg-day	4.0E-02	mg/kg-day	1.1E-04
				Fluorene	1.57E-03	mg/kg wet	1.0E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.4E-06	mg/kg-day	4.0E-02	mg/kg-day	6.0E-05
				Indeno(1,2,3-cd)pyrene	2.09E-04	mg/kg wet	1.4E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.7E-07	3.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	9.24E-05	mg/kg wet	6.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.4E-07	mg/kg-day	4.0E-03	mg/kg-day	3.6E-05
				Naphthalene	2.18E-04	mg/kg wet	1.4E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.7E-08	3.4E-07	mg/kg-day	2.0E-02	mg/kg-day	1.7E-05
				Phenanthrene	4.12E-03	mg/kg wet	2.7E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.4E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.50E-03	mg/kg wet	9.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.3E-06	mg/kg-day	3.0E-02	mg/kg-day	7.7E-05
				2,4'-DDD	3.81E-06	mg/kg wet	2.5E-09	mg/kg-day	2.4E-01	(mg/kg-day)-1	6.0E-10	5.9E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	3.54E-05	mg/kg wet	2.3E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	8.0E-09	5.5E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.57E-05	mg/kg wet	1.0E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.5E-09	2.4E-08	mg/kg-day	5.0E-04	mg/kg-day	4.8E-05
				4,4'-DDD	9.56E-04	mg/kg wet	6.3E-07	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.5E-07	1.5E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.98E-03	mg/kg wet	1.3E-06	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.4E-07	3.1E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.54E-04	mg/kg wet	1.7E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.7E-08	3.9E-07	mg/kg-day	5.0E-04	mg/kg-day	7.8E-04
				alpha-Chlordane	6.76E-05	mg/kg wet	4.5E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.8E-08	1.0E-07	mg/kg-day	5.0E-04	mg/kg-day	2.1E-04
				Dieldrin	1.43E-04	mg/kg wet	9.4E-08	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.5E-06	2.2E-07	mg/kg-day	5.0E-05	mg/kg-day	4.4E-03
				Endosulfan II	3.56E-05	mg/kg wet	2.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.5E-08	mg/kg-day	6.0E-03	mg/kg-day	9.1E-06
				gamma-BHC	2.28E-05	mg/kg wet	1.5E-08	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.7E-08	3.5E-08	mg/kg-day	3.0E-04	mg/kg-day	1.2E-04
				gamma-Chlordane	1.31E-04	mg/kg wet	8.7E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.1E-07	2.0E-07	mg/kg-day	5.0E-04	mg/kg-day	4.0E-04
				Total PCBs	1.63E-02	mg/kg wet	1.1E-05	mg/kg-day	5.0E+00	(mg/kg-day)-1	5.4E-05	2.5E-05	mg/kg-day	2.0E-05	mg/kg-day	1.3E+00
				TBT	3.85E-03	mg/kg wet	2.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.9E-06	mg/kg-day	3.0E-04	mg/kg-day	2.0E-02
			Exp. Route Total								1.6E-03					3.0E+00
		Exposure Point Total									1.6E-03					3.0E+00
	Exposure Medium Total										3.1E-03					4.5E+00
Medium Total											3.1E-03					4.5E+00
							Total of Receptor Risks Across All Media				3.1E-03	Total of Receptor Hazards Across All Media				4.5E+00

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure for Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Breakwater Beach	Combined (Ingestion and Dermal)	Ag	4.72E-01	mg/kg dry	3.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.6E-07	mg/kg-day	5.0E-03	mg/kg-day	9.2E-05
				As	7.89E+00	mg/kg dry	7.0E-07	mg/kg-day	9.5E+00	(mg/kg-day)-1	6.6E-06	8.1E-06	mg/kg-day	3.0E-04	mg/kg-day	2.7E-02
				Cd	1.81E-01	mg/kg dry	1.5E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	5.6E-09	1.7E-07	mg/kg-day	5.0E-04	mg/kg-day	3.4E-04
				Cr	9.65E+01	mg/kg dry	7.9E-06	mg/kg-day	1.9E-01	(mg/kg-day)-1	1.5E-06	9.2E-05	mg/kg-day	3.0E-03	mg/kg-day	3.1E-02
				Cu	4.65E+01	mg/kg dry	3.9E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.5E-05	mg/kg-day	3.7E-02	mg/kg-day	1.2E-03
				Hg	3.24E-01	mg/kg dry	2.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.2E-07	mg/kg-day	1.0E-04	mg/kg-day	3.2E-03
				Ni	6.57E+01	mg/kg dry	5.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.4E-05	mg/kg-day	2.0E-02	mg/kg-day	3.2E-03
				Sb	9.28E-01	mg/kg dry	7.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	9.1E-07	mg/kg-day	4.0E-04	mg/kg-day	2.3E-03
				Se	6.81E-01	mg/kg dry	5.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.6E-07	mg/kg-day	5.0E-03	mg/kg-day	1.3E-04
				Zn	1.20E+02	mg/kg dry	1.0E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-04	mg/kg-day	3.0E-01	mg/kg-day	3.9E-04
				Acenaphthene	<8.74E-02>	mg/kg dry	1.0E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.2E-07	mg/kg-day	6.0E-02	mg/kg-day	2.0E-06
				Acenaphthylene	<3.70E-02>	mg/kg dry	4.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.0E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.47E-01	mg/kg dry	1.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.0E-07	mg/kg-day	3.0E-01	mg/kg-day	6.6E-07
				Benzo(a)anthracene	2.12E-01	mg/kg dry	2.4E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.9E-08	2.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.31E-01	mg/kg dry	2.7E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	3.2E-07	3.1E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.65E-01	mg/kg dry	3.1E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.7E-08	3.6E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.64E-01	mg/kg dry	1.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.68E-01	mg/kg dry	1.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.3E-08	2.3E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	2.39E-01	mg/kg dry	2.8E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.3E-09	3.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	<3.05E-02>	mg/kg dry	3.5E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	1.4E-08	4.1E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	4.13E-01	mg/kg dry	4.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.6E-07	mg/kg-day	4.0E-02	mg/kg-day	1.4E-05
				Fluorene	<1.08E-01>	mg/kg dry	1.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.5E-07	mg/kg-day	4.0E-02	mg/kg-day	3.6E-06
				Indeno(1,2,3-cd)pyrene	1.60E-01	mg/kg dry	1.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.2E-08	2.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<2.10E-02>	mg/kg dry	2.4E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-08	mg/kg-day	4.0E-03	mg/kg-day	7.1E-06
				Naphthalene	<2.98E-02>	mg/kg dry	3.4E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.1E-10	4.0E-08	mg/kg-day	2.0E-02	mg/kg-day	2.0E-06
				Phenanthrene	2.19E-01	mg/kg dry	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	4.41E-01	mg/kg dry	5.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.0E-07	mg/kg-day	3.0E-02	mg/kg-day	2.0E-05
				2,4'-DDD	9.29E-04	mg/kg dry	8.6E-11	mg/kg-day	2.4E-01	(mg/kg-day)-1	2.1E-11	1.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	<1.37E-04>	mg/kg dry	1.3E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.3E-12	1.5E-10	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDT	<2.27E-04>	mg/kg dry	2.1E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.1E-12	2.5E-10	mg/kg-day	5.0E-04	mg/kg-day	4.9E-07
				4,4'-DDD	<1.86E-03>	mg/kg dry	1.7E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	4.1E-11	2.0E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	<1.56E-03>	mg/kg dry	1.4E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.9E-11	1.7E-09	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	<2.10E-03>	mg/kg dry	1.9E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.6E-11	2.3E-09	mg/kg-day	5.0E-04	mg/kg-day	4.5E-06
				alpha-Chlordane	<1.91E-04>	mg/kg dry	1.8E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	2.3E-11	2.1E-10	mg/kg-day	5.0E-04	mg/kg-day	4.1E-07
				Dieldrin	<6.22E-04>	mg/kg dry	5.8E-11	mg/kg-day	1.6E+01	(mg/kg-day)-1	9.2E-10	6.7E-10	mg/kg-day	5.0E-05	mg/kg-day	1.3E-05
				Endosulfan II	3.91E-03	mg/kg dry	3.6E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.2E-09	mg/kg-day	6.0E-03	mg/kg-day	7.1E-07
				gamma-BHC	>1.77E-03<	mg/kg dry	1.6E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.8E-10	1.9E-09	mg/kg-day	3.0E-04	mg/kg-day	6.4E-06
				gamma-Chlordane	<1.11E-03>	mg/kg dry	1.0E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.3E-10	1.2E-09	mg/kg-day	5.0E-04	mg/kg-day	2.4E-06
				Total PCBs	2.42E-02	mg/kg dry	2.8E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	1.4E-08	3.3E-08	mg/kg-day	2.0E-05	mg/kg-day	1.6E-03
				TBT	3.07E-03	mg/kg dry	3.2E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.7E-09	mg/kg-day	3.0E-04	mg/kg-day	1.2E-05
			Exp. Route Total								8.5E-06					7.0E-02
		Exposure Point Total									8.5E-06					7.0E-02
	Exposure Medium Total										8.5E-06					7.0E-02
	Fish Tissue	Forage Fish in Breakwater Beach	Ingestion	Ag	2.12E-03	mg/kg wet	1.3E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.6E-06	mg/kg-day	5.0E-03	mg/kg-day	3.1E-04
				As	2.35E-01	mg/kg wet	1.5E-05	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.4E-04	1.7E-04	mg/kg-day	3.0E-04	mg/kg-day	5.8E-01
				Cd	7.06E-04	mg/kg wet	4.4E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.7E-08	5.2E-07	mg/kg-day	5.0E-04	mg/kg-day	1.0E-03
				Cr	2.51E-01	mg/kg wet	1.6E-05	mg/kg-day	1.9E-01	(mg/kg-day)-1	3.0E-06	1.8E-04	mg/kg-day	3.0E-03	mg/kg-day	6.1E-02
				Cu	6.75E-01	mg/kg wet	4.2E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	4.9E-04	mg/kg-day	3.7E-02	mg/kg-day	1.3E-02
				Hg	1.44E-02	mg/kg wet	9.0E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-05	mg/kg-day	1.0E-04	mg/kg-day	1.1E-01
				Ni	7.23E-02	mg/kg wet	4.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.3E-05	mg/kg-day	2.0E-02	mg/kg-day	2.6E-03
				Sb	9.28E-04	mg/kg wet	5.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.8E-07	mg/kg-day	4.0E-04	mg/kg-day	1.7E-03
				Se	2.35E-01	mg/kg wet	1.5E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3.4E-02
				Zn	7.73E+00	mg/kg wet	4.9E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.7E-03	mg/kg-day	3.0E-01	mg/kg-day	1.9E-02
				Acenaphthene	2.32E-03	mg/kg wet	1.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.7E-06	mg/kg-day	6.0E-02	mg/kg-day	2.8E-05
				Acenaphthylene	5.18E-05	mg/kg wet	3.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.8E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	7.04E-04	mg/kg wet	4.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	5.2E-07	mg/kg-day	3.0E-01	mg/kg-day	1.7E-06
				Benzo(a)anthracene	4.02E-04	mg/kg wet	2.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.0E-08	3.0E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	3.23E-04	mg/kg wet	2.0E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	2.4E-07	2.4E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	3.98E-04	mg/kg wet	2.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.0E-08	2.9E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.79E-04	mg/kg wet	1.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.0E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	4.37E-04	mg/kg wet	2.7E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.3E-08	3.2E-07	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	9.30E-04	mg/kg wet	5.8E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	7.0E-09	6.8E-07	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Dibenz(a,h)anthracene	1.83E-05	mg/kg wet	1.2E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	4.7E-09	1.3E-08	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	2.85E-03	mg/kg wet	1.8E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.1E-06	mg/kg-day	4.0E-02	mg/kg-day	5.2E-05
				Fluorene	1.57E-03	mg/kg wet	9.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-06	mg/kg-day	4.0E-02	mg/kg-day	2.9E-05
				Indeno(1,2,3-cd)pyrene	2.09E-04	mg/kg wet	1.3E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.6E-08	1.5E-07	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	9.24E-05	mg/kg wet	5.8E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	6.8E-08	mg/kg-day	4.0E-03	mg/kg-day	1.7E-05
				Naphthalene	2.18E-04	mg/kg wet	1.4E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.6E-09	1.6E-07	mg/kg-day	2.0E-02	mg/kg-day	8.0E-06
				Phenanthrene	4.12E-03	mg/kg wet	2.6E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	3.0E-06	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.50E-03	mg/kg wet	9.4E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	1.1E-06	mg/kg-day	3.0E-02	mg/kg-day	3.7E-05
				2,4'-DDD	3.81E-06	mg/kg wet	2.4E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.7E-11	2.8E-09	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	3.54E-05	mg/kg wet	2.2E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.6E-10	2.6E-08	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.57E-05	mg/kg wet	9.8E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.3E-10	1.1E-08	mg/kg-day	5.0E-04	mg/kg-day	2.3E-05
				4,4'-DDD	9.56E-04	mg/kg wet	6.0E-08	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.4E-08	7.0E-07	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.98E-03	mg/kg wet	1.2E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.2E-08	1.5E-06	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.54E-04	mg/kg wet	1.6E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.4E-09	1.9E-07	mg/kg-day	5.0E-04	mg/kg-day	3.7E-04
				alpha-Chlordane	6.76E-05	mg/kg wet	4.2E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.5E-09	5.0E-08	mg/kg-day	5.0E-04	mg/kg-day	9.9E-05
				Dieldrin	1.43E-04	mg/kg wet	9.0E-09	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.4E-07	1.0E-07	mg/kg-day	5.0E-05	mg/kg-day	2.1E-03
				Endosulfan II	3.56E-05	mg/kg wet	2.2E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.6E-08	mg/kg-day	6.0E-03	mg/kg-day	4.3E-06
				gamma-BHC	2.28E-05	mg/kg wet	1.4E-09	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.6E-09	1.7E-08	mg/kg-day	3.0E-04	mg/kg-day	5.6E-05
				gamma-Chlordane	1.31E-04	mg/kg wet	8.2E-09	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.1E-08	9.6E-08	mg/kg-day	5.0E-04	mg/kg-day	1.9E-04
				Total PCBs	1.63E-02	mg/kg wet	1.0E-06	mg/kg-day	5.0E+00	(mg/kg-day)-1	5.1E-06	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	6.0E-01
				TBT	3.85E-03	mg/kg wet	2.4E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9.4E-03
			Exp. Route Total								1.5E-04					1.4E+00
		Exposure Point Total									1.5E-04					1.4E+00
	Exposure Medium Total										1.5E-04					1.4E+00
Medium Total											1.6E-04					1.5E+00
							Total of Receptor Risks Across All Media				1.6E-04	Total of Receptor Hazards Across All Media				1.5E+00

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Breakwater Beach	Combined (Ingestion and Dermal)	Ag	4.72E-01	mg/kg dry	5.7E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-03	mg/kg-day	N/A
				As	7.89E+00	mg/kg dry	1.0E-06	mg/kg-day	9.5E+00	(mg/kg-day)-1	9.5E-06	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
				Cd	1.81E-01	mg/kg dry	2.1E-08	mg/kg-day	3.8E-01	(mg/kg-day)-1	8.0E-09	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Cr	9.65E+01	mg/kg dry	1.1E-05	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.1E-06	N/A	mg/kg-day	3.0E-03	mg/kg-day	N/A
				Cu	4.65E+01	mg/kg dry	5.6E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.7E-02	mg/kg-day	N/A
				Hg	3.24E-01	mg/kg dry	3.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	1.0E-04	mg/kg-day	N/A
				Ni	6.57E+01	mg/kg dry	7.9E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-02	mg/kg-day	N/A
				Sb	9.28E-01	mg/kg dry	1.1E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-04	mg/kg-day	N/A
				Se	6.81E-01	mg/kg dry	8.2E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-03	mg/kg-day	N/A
				Zn	1.20E+02	mg/kg dry	1.4E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-01	mg/kg-day	N/A
				Acenaphthene	<8.74E-02>	mg/kg dry	1.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-02	mg/kg-day	N/A
				Acenaphthylene	<3.70E-02>	mg/kg dry	6.3E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	1.47E-01	mg/kg dry	2.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-01	mg/kg-day	N/A
				Benzo(a)anthracene	2.12E-01	mg/kg dry	3.6E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	4.4E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	2.31E-01	mg/kg dry	4.0E-08	mg/kg-day	1.2E+01	(mg/kg-day)-1	4.7E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	2.65E-01	mg/kg dry	4.5E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	5.5E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	1.64E-01	mg/kg dry	2.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	1.68E-01	mg/kg dry	2.9E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.5E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	2.39E-01	mg/kg dry	4.1E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	4.9E-09	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Dibenz(a,h)anthracene	<3.05E-02>	mg/kg dry	5.2E-09	mg/kg-day	4.1E+00	(mg/kg-day)-1	2.1E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	4.13E-01	mg/kg dry	7.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-02	mg/kg-day	N/A
				Fluorene	<1.08E-01>	mg/kg dry	1.9E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-02	mg/kg-day	N/A
				Indeno(1,2,3-cd)pyrene	1.60E-01	mg/kg dry	2.7E-08	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.3E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	<2.10E-02>	mg/kg dry	3.6E-09	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-03	mg/kg-day	N/A
				Naphthalene	<2.98E-02>	mg/kg dry	5.1E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.1E-10	N/A	mg/kg-day	2.0E-02	mg/kg-day	N/A
				Phenanthrene	2.19E-01	mg/kg dry	3.8E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	4.41E-01	mg/kg dry	7.6E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-02	mg/kg-day	N/A
				2,4'-DDD	9.29E-04	mg/kg dry	1.3E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	3.0E-11	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	<1.37E-04>	mg/kg dry	1.8E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	6.2E-12	N/A	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				2,4'-DDT	<2.27E-04>	mg/kg dry	3.0E-11	mg/kg-day	3.4E-01	(mg/kg-day)-1	1.0E-11	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				4,4'-DDD	<1.86E-03>	mg/kg dry	2.5E-10	mg/kg-day	2.4E-01	(mg/kg-day)-1	6.0E-11	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	<1.56E-03>	mg/kg dry	2.1E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.1E-11	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	<2.10E-03>	mg/kg dry	2.8E-10	mg/kg-day	3.4E-01	(mg/kg-day)-1	9.6E-11	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				alpha-Chlordane	<1.91E-04>	mg/kg dry	2.6E-11	mg/kg-day	1.3E+00	(mg/kg-day)-1	3.3E-11	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Dieldrin	<6.22E-04>	mg/kg dry	8.4E-11	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.3E-09	N/A	mg/kg-day	5.0E-05	mg/kg-day	N/A
				Endosulfan II	3.91E-03	mg/kg dry	5.3E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-03	mg/kg-day	N/A
				gamma-BHC	>1.77E-03<	mg/kg dry	2.4E-10	mg/kg-day	1.1E+00	(mg/kg-day)-1	2.6E-10	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
				gamma-Chlordane	<1.11E-03>	mg/kg dry	1.5E-10	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.9E-10	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Total PCBs	2.42E-02	mg/kg dry	4.1E-09	mg/kg-day	5.0E+00	(mg/kg-day)-1	2.1E-08	N/A	mg/kg-day	2.0E-05	mg/kg-day	N/A
				TBT	3.07E-03	mg/kg dry	4.7E-10	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
			Exp. Route Total								1.2E-05					N/A
		Exposure Point Total									1.2E-05					N/A
	Exposure Medium Total										1.2E-05					N/A
	Fish Tissue	Forage Fish in Breakwater Beach	Ingestion	Ag	2.12E-03	mg/kg wet	1.3E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-03	mg/kg-day	N/A
				As	2.35E-01	mg/kg wet	1.4E-04	mg/kg-day	9.5E+00	(mg/kg-day)-1	1.3E-03	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
				Cd	7.06E-04	mg/kg wet	4.2E-07	mg/kg-day	3.8E-01	(mg/kg-day)-1	1.6E-07	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Cr	2.51E-01	mg/kg wet	1.5E-04	mg/kg-day	1.9E-01	(mg/kg-day)-1	2.8E-05	N/A	mg/kg-day	3.0E-03	mg/kg-day	N/A
				Cu	6.75E-01	mg/kg wet	4.0E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.7E-02	mg/kg-day	N/A
				Hg	1.44E-02	mg/kg wet	8.5E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	1.0E-04	mg/kg-day	N/A
				Ni	7.23E-02	mg/kg wet	4.3E-05	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	2.0E-02	mg/kg-day	N/A
				Sb	9.28E-04	mg/kg wet	5.5E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-04	mg/kg-day	N/A
				Se	2.35E-01	mg/kg wet	1.4E-04	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	5.0E-03	mg/kg-day	N/A
				Zn	7.73E+00	mg/kg wet	4.6E-03	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-01	mg/kg-day	N/A
				Acenaphthene	2.32E-03	mg/kg wet	1.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-02	mg/kg-day	N/A
				Acenaphthylene	5.18E-05	mg/kg wet	3.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Anthracene	7.04E-04	mg/kg wet	4.2E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-01	mg/kg-day	N/A
				Benzo(a)anthracene	4.02E-04	mg/kg wet	2.4E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.9E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(a)pyrene	3.23E-04	mg/kg wet	1.9E-07	mg/kg-day	1.2E+01	(mg/kg-day)-1	2.3E-06	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(b)fluoranthene	3.98E-04	mg/kg wet	2.4E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	2.8E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(g,h,i)perylene	2.79E-04	mg/kg wet	1.7E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Benzo(k)fluoranthene	4.37E-04	mg/kg wet	2.6E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	3.1E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Chrysene	9.30E-04	mg/kg wet	5.5E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.6E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A

Table 7.2.RME. Calculation Of Chemical Cancer Risks And Non-Cancer Hazards Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
				Dibenz(a,h)anthracene	1.83E-05	mg/kg wet	1.1E-08	mg/kg-day	4.1E+00	(mg/kg-day)-1	4.4E-08	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Fluoranthene	2.85E-03	mg/kg wet	1.7E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-02	mg/kg-day	N/A
				Fluorene	1.57E-03	mg/kg wet	9.3E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-02	mg/kg-day	N/A
				Indeno(1,2,3-cd)pyrene	2.09E-04	mg/kg wet	1.2E-07	mg/kg-day	1.2E+00	(mg/kg-day)-1	1.5E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2-Methylnaphthalene	9.24E-05	mg/kg wet	5.5E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	4.0E-03	mg/kg-day	N/A
				Naphthalene	2.18E-04	mg/kg wet	1.3E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.5E-08	N/A	mg/kg-day	2.0E-02	mg/kg-day	N/A
				Phenanthrene	4.12E-03	mg/kg wet	2.4E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				Pyrene	1.50E-03	mg/kg wet	8.9E-07	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-02	mg/kg-day	N/A
				2,4'-DDD	3.81E-06	mg/kg wet	2.3E-09	mg/kg-day	2.4E-01	(mg/kg-day)-1	5.4E-10	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDE	3.54E-05	mg/kg wet	2.1E-08	mg/kg-day	3.4E-01	(mg/kg-day)-1	7.1E-09	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				2,4'-DDT	1.57E-05	mg/kg wet	9.3E-09	mg/kg-day	3.4E-01	(mg/kg-day)-1	3.1E-09	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				4,4'-DDD	9.56E-04	mg/kg wet	5.7E-07	mg/kg-day	2.4E-01	(mg/kg-day)-1	1.4E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDE	1.98E-03	mg/kg wet	1.2E-06	mg/kg-day	3.4E-01	(mg/kg-day)-1	4.0E-07	N/A	mg/kg-day	N/A	mg/kg-day	N/A
				4,4'-DDT	2.54E-04	mg/kg wet	1.5E-07	mg/kg-day	3.4E-01	(mg/kg-day)-1	5.1E-08	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				alpha-Chlordane	6.76E-05	mg/kg wet	4.0E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	5.2E-08	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Dieldrin	1.43E-04	mg/kg wet	8.4E-08	mg/kg-day	1.6E+01	(mg/kg-day)-1	1.4E-06	N/A	mg/kg-day	5.0E-05	mg/kg-day	N/A
				Endosulfan II	3.56E-05	mg/kg wet	2.1E-08	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	6.0E-03	mg/kg-day	N/A
				gamma-BHC	2.28E-05	mg/kg wet	1.4E-08	mg/kg-day	1.1E+00	(mg/kg-day)-1	1.5E-08	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
				gamma-Chlordane	1.31E-04	mg/kg wet	7.8E-08	mg/kg-day	1.3E+00	(mg/kg-day)-1	1.0E-07	N/A	mg/kg-day	5.0E-04	mg/kg-day	N/A
				Total PCBs	1.63E-02	mg/kg wet	9.6E-06	mg/kg-day	5.0E+00	(mg/kg-day)-1	4.8E-05	N/A	mg/kg-day	2.0E-05	mg/kg-day	N/A
				TBT	3.85E-03	mg/kg wet	2.3E-06	mg/kg-day	N/A	(mg/kg-day)-1	N/A	N/A	mg/kg-day	3.0E-04	mg/kg-day	N/A
			Exp. Route Total								1.4E-03					N/A
		Exposure Point Total									1.4E-03					N/A
	Exposure Medium Total										1.4E-03					N/A
Medium Total											1.4E-03					N/A
							Total of Receptor Risks Across All Media				1.4E-03	Total of Receptor Hazards Across All Media				N/A

Table 9.1.CT. Summary Of Receptor Risks And Hazards For COPCS Central Tendency for Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	1.30E-06	N/A	N/A	1.30E-06
			As	1.51E-07	N/A	N/A	N/A	1.51E-07	liver/kidney/bladder	4.15E-04	N/A	N/A	4.15E-04
			Cd	1.13E-10	N/A	N/A	N/A	1.13E-10	kidney	4.64E-06	N/A	N/A	4.64E-06
			Cr	3.00E-08	N/A	N/A	N/A	3.00E-08	liver/kidney	4.09E-04	N/A	N/A	4.09E-04
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.73E-05	N/A	N/A	1.73E-05
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	4.45E-05	N/A	N/A	4.45E-05
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	4.51E-05	N/A	N/A	4.51E-05
			Sb	N/A	N/A	N/A	N/A	N/A	blood	3.18E-05	N/A	N/A	3.18E-05
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.87E-06	N/A	N/A	1.87E-06
			Zn	N/A	N/A	N/A	N/A	N/A	blood	5.49E-06	N/A	N/A	5.49E-06
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	4.07E-08	N/A	N/A	4.07E-08
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.37E-08	N/A	N/A	1.37E-08
			Benzo(a)anthracene	9.13E-10	N/A	N/A	N/A	9.13E-10	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	9.94E-09	N/A	N/A	N/A	9.94E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	1.14E-09	N/A	N/A	N/A	1.14E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	7.25E-10	N/A	N/A	N/A	7.25E-10	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.03E-10	N/A	N/A	N/A	1.03E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.49E-10	N/A	N/A	N/A	4.49E-10	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	2.88E-07	N/A	N/A	2.88E-07
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	7.55E-08	N/A	N/A	7.55E-08
			Indeno(1,2,3-cd)pyrene	6.92E-10	N/A	N/A	N/A	6.92E-10	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	1.47E-07	N/A	N/A	1.47E-07
			Naphthalene	1.28E-11	N/A	N/A	N/A	1.28E-11	liver/CNS	4.16E-08	N/A	N/A	4.16E-08
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	4.11E-07	N/A	N/A	4.11E-07
			2,4'-DDD	5.10E-13	N/A	N/A	N/A	5.10E-13	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	1.06E-13	N/A	N/A	N/A	1.06E-13	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	1.76E-13	N/A	N/A	N/A	1.76E-13	CNS/reproductive/liver	8.06E-09	N/A	N/A	8.06E-09
			4,4'-DDD	1.02E-12	N/A	N/A	N/A	1.02E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	1.21E-12	N/A	N/A	N/A	1.21E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.63E-12	N/A	N/A	N/A	1.63E-12	CNS/reproductive/liver	7.47E-08	N/A	N/A	7.47E-08
			alpha-Chlordane	5.69E-13	N/A	N/A	N/A	5.69E-13	liver	6.81E-09	N/A	N/A	6.81E-09

Table 9.1.CT. Summary Of Receptor Risks And Hazards For COPCS Central Tendency for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Dieldrin	2.28E-11	N/A	N/A	N/A	2.28E-11	liver/CNS	2.21E-07	N/A	N/A	2.21E-07
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.16E-08	N/A	N/A	1.16E-08
			gamma-BHC	4.45E-12	N/A	N/A	N/A	4.45E-12	liver/kidney	1.05E-07	N/A	N/A	1.05E-07
			gamma-Chlordane	3.30E-12	N/A	N/A	N/A	3.30E-12	liver	3.95E-08	N/A	N/A	3.95E-08
			Total PCBs	4.34E-10	N/A	N/A	N/A	4.34E-10	CNS/immune system/liver	3.38E-05	N/A	N/A	3.38E-05
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.34E-07	N/A	N/A	2.34E-07
			Chemical Total	2.0E-07	N/A	N/A	N/A	2.0E-07	N/A	1.0E-03	N/A	N/A	1.0E-03
		Exposure Point Total						2.0E-07					1.0E-03
	Exposure Medium Total							2.0E-07					1.0E-03
	Fish Tissue	Shellfish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	5.37E-05	N/A	N/A	5.37E-05
			As	3.17E-05	N/A	N/A	N/A	3.17E-05	liver/kidney/bladder	8.70E-02	N/A	N/A	8.70E-02
			Cd	1.33E-08	N/A	N/A	N/A	1.33E-08	kidney	5.46E-04	N/A	N/A	5.46E-04
			Cr	1.17E-06	N/A	N/A	N/A	1.17E-06	liver/kidney	1.60E-02	N/A	N/A	1.60E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	4.42E-04	N/A	N/A	4.42E-04
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	6.26E-04	N/A	N/A	6.26E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	1.62E-03	N/A	N/A	1.62E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	1.29E-04	N/A	N/A	1.29E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	6.54E-04	N/A	N/A	6.54E-04
			Zn	N/A	N/A	N/A	N/A	N/A	blood	3.75E-04	N/A	N/A	3.75E-04
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	6.56E-08	N/A	N/A	6.56E-08
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	2.25E-07	N/A	N/A	2.25E-07
			Benzo(a)anthracene	5.92E-08	N/A	N/A	N/A	5.92E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.87E-07	N/A	N/A	N/A	1.87E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	4.99E-08	N/A	N/A	N/A	4.99E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1.37E-08	N/A	N/A	N/A	1.37E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	4.05E-09	N/A	N/A	N/A	4.05E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.81E-09	N/A	N/A	N/A	2.81E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	2.07E-05	N/A	N/A	2.07E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.36E-07	N/A	N/A	1.36E-07
			Indeno(1,2,3-cd)pyrene	4.48E-09	N/A	N/A	N/A	4.48E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	1.15E-10	N/A	N/A	N/A	1.15E-10	liver/CNS	3.74E-07	N/A	N/A	3.74E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	4.38E-05	N/A	N/A	4.38E-05
			2,4'-DDD	5.30E-11	N/A	N/A	N/A	5.30E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	6.51E-12	N/A	N/A	N/A	6.51E-12	N/A	N/A	N/A	N/A	N/A

Table 9.1.CT. Summary Of Receptor Risks And Hazards For COPCS Central Tendency for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Ingestion & Dermal	Carcinogenic Risk Inhalation	Carcinogenic Risk Dermal (a)	Carcinogenic Risk External (Radiation)	Carcinogenic Risk Exposure Routes Total	Non-Carcinogenic Hazard Quotient Primary Target Organ(s)	Non-Carcinogenic Hazard Quotient Ingestion & Dermal	Non-Carcinogenic Hazard Quotient Inhalation	Non-Carcinogenic Hazard Quotient Dermal (a)	Non-Carcinogenic Hazard Quotient Exposure Routes Total
			2,4'-DDT	2.63E-11	N/A	N/A	N/A	2.63E-11	CNS/reproductive/liver	1.20E-06	N/A	N/A	1.20E-06
			4,4'-DDD	2.10E-10	N/A	N/A	N/A	2.10E-10	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	4.21E-10	N/A	N/A	N/A	4.21E-10	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	8.89E-11	N/A	N/A	N/A	8.89E-11	CNS/reproductive/liver	4.07E-06	N/A	N/A	4.07E-06
			alpha-Chlordane	1.47E-10	N/A	N/A	N/A	1.47E-10	liver	1.76E-06	N/A	N/A	1.76E-06
			Dieldrin	4.16E-09	N/A	N/A	N/A	4.16E-09	liver/CNS	4.04E-05	N/A	N/A	4.04E-05
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			gamma-BHC	2.14E-10	N/A	N/A	N/A	2.14E-10	liver/kidney	5.05E-06	N/A	N/A	5.05E-06
			gamma-Chlordane	9.81E-10	N/A	N/A	N/A	9.81E-10	liver	1.17E-05	N/A	N/A	1.17E-05
			Total PCBs	6.23E-08	N/A	N/A	N/A	6.23E-08	CNS/immune system/liver	4.84E-03	N/A	N/A	4.84E-03
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	5.64E-05	N/A	N/A	5.64E-05
			Chemical Total	3.3E-05	N/A	N/A	N/A	3.3E-05	N/A	1.1E-01	N/A	N/A	1.1E-01
		Exposure Point Total						3.3E-05					1.1E-01
		Forage Fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	4.85E-05	N/A	N/A	4.85E-05
			As	3.27E-05	N/A	N/A	N/A	3.27E-05	liver/kidney/bladder	8.96E-02	N/A	N/A	8.96E-02
			Cd	3.94E-09	N/A	N/A	N/A	3.94E-09	kidney	1.61E-04	N/A	N/A	1.61E-04
			Cr	7.01E-07	N/A	N/A	N/A	7.01E-07	liver/kidney	9.56E-03	N/A	N/A	9.56E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	2.08E-03	N/A	N/A	2.08E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.64E-02	N/A	N/A	1.64E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	4.13E-04	N/A	N/A	4.13E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.65E-04	N/A	N/A	2.65E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	5.36E-03	N/A	N/A	5.36E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	2.95E-03	N/A	N/A	2.95E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	4.41E-06	N/A	N/A	4.41E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	2.68E-07	N/A	N/A	2.68E-07
			Benzo(a)anthracene	7.10E-09	N/A	N/A	N/A	7.10E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	5.69E-08	N/A	N/A	N/A	5.69E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	7.02E-09	N/A	N/A	N/A	7.02E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	7.71E-09	N/A	N/A	N/A	7.71E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.64E-09	N/A	N/A	N/A	1.64E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1.10E-09	N/A	N/A	N/A	1.10E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	8.13E-06	N/A	N/A	8.13E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	4.47E-06	N/A	N/A	4.47E-06
			Indeno(1,2,3-cd)pyrene	3.68E-09	N/A	N/A	N/A	3.68E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	2.64E-06	N/A	N/A	2.64E-06
			Naphthalene	3.84E-10	N/A	N/A	N/A	3.84E-10	liver/CNS	1.24E-06	N/A	N/A	1.24E-06

Table 9.1.CT. Summary Of Receptor Risks And Hazards For COPCS Central Tendency for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	5.72E-06	N/A	N/A	5.72E-06
			2,4'-DDD	1.34E-11	N/A	N/A	N/A	1.34E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	1.77E-10	N/A	N/A	N/A	1.77E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	7.82E-11	N/A	N/A	N/A	7.82E-11	CNS/reproductive/liver	3.58E-06	N/A	N/A	3.58E-06
			4,4'-DDD	3.37E-09	N/A	N/A	N/A	3.37E-09	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	9.88E-09	N/A	N/A	N/A	9.88E-09	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.27E-09	N/A	N/A	N/A	1.27E-09	CNS/reproductive/liver	5.80E-05	N/A	N/A	5.80E-05
			alpha-Chlordane	1.29E-09	N/A	N/A	N/A	1.29E-09	liver	1.54E-05	N/A	N/A	1.54E-05
			Dieldrin	3.36E-08	N/A	N/A	N/A	3.36E-08	liver/CNS	3.26E-04	N/A	N/A	3.26E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	6.77E-07	N/A	N/A	6.77E-07
			gamma-BHC	3.69E-10	N/A	N/A	N/A	3.69E-10	liver/kidney	8.70E-06	N/A	N/A	8.70E-06
			gamma-Chlordane	2.51E-09	N/A	N/A	N/A	2.51E-09	liver	3.00E-05	N/A	N/A	3.00E-05
			Total PCBs	1.20E-06	N/A	N/A	N/A	1.20E-06	CNS/immune system/liver	9.32E-02	N/A	N/A	9.32E-02
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.47E-03	N/A	N/A	1.47E-03
			Chemical Total	3.5E-05	N/A	N/A	N/A	3.5E-05	N/A	2.2E-01	N/A	N/A	2.2E-01
		Exposure Point Total						3.5E-05					2.2E-01
	Exposure Medium Total							6.8E-05					3.3E-01
Medium Total								6.8E-05					3.4E-01
Receptor Total							Receptor Risk Total	6.8E-05				Receptor HI Total	3.4E-01

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 9.2.CT. Summary Of Receptor Risks And Hazards For COPCs Central Tendency for Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	1.18E-05	N/A	N/A	1.18E-05
			As	8.87E-07	N/A	N/A	N/A	8.87E-07	liver/kidney/bladder	3.65E-03	N/A	N/A	3.65E-03
			Cd	7.03E-10	N/A	N/A	N/A	7.03E-10	kidney	4.32E-05	N/A	N/A	4.32E-05
			Cr	1.87E-07	N/A	N/A	N/A	1.87E-07	liver/kidney	3.82E-03	N/A	N/A	3.82E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.58E-04	N/A	N/A	1.58E-04
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	4.06E-04	N/A	N/A	4.06E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	4.12E-04	N/A	N/A	4.12E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.91E-04	N/A	N/A	2.91E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.71E-05	N/A	N/A	1.71E-05
			Zn	N/A	N/A	N/A	N/A	N/A	blood	5.01E-05	N/A	N/A	5.01E-05
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	3.18E-07	N/A	N/A	3.18E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.07E-07	N/A	N/A	1.07E-07
			Benzo(a)anthracene	4.76E-09	N/A	N/A	N/A	4.76E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	5.18E-08	N/A	N/A	N/A	5.18E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	5.96E-09	N/A	N/A	N/A	5.96E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	3.78E-09	N/A	N/A	N/A	3.78E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	5.36E-10	N/A	N/A	N/A	5.36E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.34E-09	N/A	N/A	N/A	2.34E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	2.25E-06	N/A	N/A	2.25E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	5.90E-07	N/A	N/A	5.90E-07
			Indeno(1,2,3-cd)pyrene	3.60E-09	N/A	N/A	N/A	3.60E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	1.15E-06	N/A	N/A	1.15E-06
			Naphthalene	6.70E-11	N/A	N/A	N/A	6.70E-11	liver/CNS	3.25E-07	N/A	N/A	3.25E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	3.21E-06	N/A	N/A	3.21E-06
			2,4'-DDD	2.90E-12	N/A	N/A	N/A	2.90E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	6.05E-13	N/A	N/A	N/A	6.05E-13	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	1.00E-12	N/A	N/A	N/A	1.00E-12	CNS/reproductive/liver	6.88E-08	N/A	N/A	6.88E-08
			4,4'-DDD	5.81E-12	N/A	N/A	N/A	5.81E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	6.91E-12	N/A	N/A	N/A	6.91E-12	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	9.30E-12	N/A	N/A	N/A	9.30E-12	CNS/reproductive/liver	6.38E-07	N/A	N/A	6.38E-07
			alpha-Chlordane	3.24E-12	N/A	N/A	N/A	3.24E-12	liver	5.81E-08	N/A	N/A	5.81E-08
			Dieldrin	1.30E-10	N/A	N/A	N/A	1.30E-10	liver/CNS	1.89E-06	N/A	N/A	1.89E-06

Table 9.2.CT. Summary Of Receptor Risks And Hazards For COPCs Central Tendency for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	9.90E-08	N/A	N/A	9.90E-08
			gamma-BHC	2.54E-11	N/A	N/A	N/A	2.54E-11	liver/kidney	8.97E-07	N/A	N/A	8.97E-07
			gamma-Chlordane	1.88E-11	N/A	N/A	N/A	1.88E-11	liver	3.37E-07	N/A	N/A	3.37E-07
			Total PCBs	2.26E-09	N/A	N/A	N/A	2.26E-09	CNS/immune system/liver	2.64E-04	N/A	N/A	2.64E-04
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.89E-06	N/A	N/A	1.89E-06
			Chemical Total	1.1E-06	N/A	N/A	N/A	1.1E-06	N/A	9.1E-03	N/A	N/A	9.1E-03
		Exposure Point Total						1.1E-06					9.1E-03
	Exposure Medium Total							1.1E-06					9.1E-03
	Fish Tissue	Forage Fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	7.93E-05	N/A	N/A	7.93E-05
			As	3.56E-05	N/A	N/A	N/A	3.56E-05	liver/kidney/bladder	1.46E-01	N/A	N/A	1.46E-01
			Cd	4.29E-09	N/A	N/A	N/A	4.29E-09	kidney	2.63E-04	N/A	N/A	2.63E-04
			Cr	7.63E-07	N/A	N/A	N/A	7.63E-07	liver/kidney	1.56E-02	N/A	N/A	1.56E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	3.40E-03	N/A	N/A	3.40E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.69E-02	N/A	N/A	2.69E-02
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	6.75E-04	N/A	N/A	6.75E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	4.33E-04	N/A	N/A	4.33E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	8.76E-03	N/A	N/A	8.76E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	4.81E-03	N/A	N/A	4.81E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	7.21E-06	N/A	N/A	7.21E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	4.38E-07	N/A	N/A	4.38E-07
			Benzo(a)anthracene	7.73E-09	N/A	N/A	N/A	7.73E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	6.20E-08	N/A	N/A	N/A	6.20E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	7.64E-09	N/A	N/A	N/A	7.64E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	8.39E-09	N/A	N/A	N/A	8.39E-09	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.79E-09	N/A	N/A	N/A	1.79E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1.20E-09	N/A	N/A	N/A	1.20E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	1.33E-05	N/A	N/A	1.33E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	7.31E-06	N/A	N/A	7.31E-06
			Indeno(1,2,3-cd)pyrene	4.00E-09	N/A	N/A	N/A	4.00E-09	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	4.31E-06	N/A	N/A	4.31E-06
			Naphthalene	4.18E-10	N/A	N/A	N/A	4.18E-10	liver/CNS	2.03E-06	N/A	N/A	2.03E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	9.34E-06	N/A	N/A	9.34E-06
			2,4'-DDD	1.46E-11	N/A	N/A	N/A	1.46E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	1.93E-10	N/A	N/A	N/A	1.93E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	8.51E-11	N/A	N/A	N/A	8.51E-11	CNS/reproductive/liver	5.84E-06	N/A	N/A	5.84E-06
			4,4'-DDD	3.67E-09	N/A	N/A	N/A	3.67E-09	N/A	N/A	N/A	N/A	N/A

Table 9.2.CT. Summary Of Receptor Risks And Hazards For COPCs Central Tendency for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			4,4'-DDE	1.08E-08	N/A	N/A	N/A	1.08E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	1.38E-09	N/A	N/A	N/A	1.38E-09	CNS/reproductive/liver	9.47E-05	N/A	N/A	9.47E-05
			alpha-Chlordane	1.41E-09	N/A	N/A	N/A	1.41E-09	liver	2.52E-05	N/A	N/A	2.52E-05
			Dieldrin	3.65E-08	N/A	N/A	N/A	3.65E-08	liver/CNS	5.33E-04	N/A	N/A	5.33E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	1.11E-06	N/A	N/A	1.11E-06
			gamma-BHC	4.02E-10	N/A	N/A	N/A	4.02E-10	liver/kidney	1.42E-05	N/A	N/A	1.42E-05
			gamma-Chlordane	2.73E-09	N/A	N/A	N/A	2.73E-09	liver	4.90E-05	N/A	N/A	4.90E-05
			Total PCBs	1.30E-06	N/A	N/A	N/A	1.30E-06	CNS/immune system/liver	1.52E-01	N/A	N/A	1.52E-01
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	2.40E-03	N/A	N/A	2.40E-03
			Chemical Total	3.8E-05	N/A	N/A	N/A	3.8E-05	N/A	3.6E-01	N/A	N/A	3.6E-01
		Exposure Point Total						3.8E-05					3.6E-01
	Exposure Medium Total							3.8E-05					3.6E-01
Medium Total								3.9E-05					3.7E-01
Receptor Total							Receptor Risk Total	3.9E-05				Receptor HI Total	3.7E-01

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 9.1.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	9.99E-06	N/A	N/A	9.99E-06
			As	3.64E-06	N/A	N/A	N/A	3.64E-06	liver/kidney/bladder	3.00E-03	N/A	N/A	3.00E-03
			Cd	3.01E-09	N/A	N/A	N/A	3.01E-09	kidney	3.70E-05	N/A	N/A	3.70E-05
			Cr	8.00E-07	N/A	N/A	N/A	8.00E-07	liver/kidney	3.27E-03	N/A	N/A	3.27E-03
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.33E-04	N/A	N/A	1.33E-04
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	3.43E-04	N/A	N/A	3.43E-04
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	3.48E-04	N/A	N/A	3.48E-04
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.45E-04	N/A	N/A	2.45E-04
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.44E-05	N/A	N/A	1.44E-05
			Zn	N/A	N/A	N/A	N/A	N/A	blood	4.23E-05	N/A	N/A	4.23E-05
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	2.37E-07	N/A	N/A	2.37E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	7.95E-08	N/A	N/A	7.95E-08
			Benzo(a)anthracene	1.77E-08	N/A	N/A	N/A	1.77E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1.93E-07	N/A	N/A	N/A	1.93E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	2.22E-08	N/A	N/A	N/A	2.22E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1.41E-08	N/A	N/A	N/A	1.41E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	2.00E-09	N/A	N/A	N/A	2.00E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	8.72E-09	N/A	N/A	N/A	8.72E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	1.68E-06	N/A	N/A	1.68E-06
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	4.39E-07	N/A	N/A	4.39E-07
			Indeno(1,2,3-cd)pyrene	1.34E-08	N/A	N/A	N/A	1.34E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	8.54E-07	N/A	N/A	8.54E-07
			Naphthalene	2.49E-10	N/A	N/A	N/A	2.49E-10	liver/CNS	2.42E-07	N/A	N/A	2.42E-07
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	2.39E-06	N/A	N/A	2.39E-06
			2,4'-DDD	1.17E-11	N/A	N/A	N/A	1.17E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	2.43E-12	N/A	N/A	N/A	2.43E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	4.03E-12	N/A	N/A	N/A	4.03E-12	CNS/reproductive/liver	5.53E-08	N/A	N/A	5.53E-08
			4,4'-DDD	2.33E-11	N/A	N/A	N/A	2.33E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	2.78E-11	N/A	N/A	N/A	2.78E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	3.74E-11	N/A	N/A	N/A	3.74E-11	CNS/reproductive/liver	5.13E-07	N/A	N/A	5.13E-07
			alpha-Chlordane	1.30E-11	N/A	N/A	N/A	1.30E-11	liver	4.67E-08	N/A	N/A	4.67E-08
			Dieldrin	5.21E-10	N/A	N/A	N/A	5.21E-10	liver/CNS	1.52E-06	N/A	N/A	1.52E-06

Table 9.1.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b) Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Non-Carcinogenic Hazard Quotient Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	7.95E-08	N/A	N/A	7.95E-08
			gamma-BHC	1.02E-10	N/A	N/A	N/A	1.02E-10	liver/kidney	7.20E-07	N/A	N/A	7.20E-07
			gamma-Chlordane	7.54E-11	N/A	N/A	N/A	7.54E-11	liver	2.71E-07	N/A	N/A	2.71E-07
			Total PCBs	8.43E-09	N/A	N/A	N/A	8.43E-09	CNS/immune system/liver	1.97E-04	N/A	N/A	1.97E-04
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.45E-06	N/A	N/A	1.45E-06
			Chemical Total	4.7E-06	N/A	N/A	N/A	4.7E-06	N/A	7.7E-03	N/A	N/A	7.7E-03
		Exposure Point Total						4.7E-06					7.7E-03
	Exposure Medium Total							4.7E-06					7.7E-03
	Fish Tissue	Shellfish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	7.24E-04	N/A	N/A	7.24E-04
			As	1.43E-03	N/A	N/A	N/A	1.43E-03	liver/kidney/bladder	1.17E+00	N/A	N/A	1.17E+00
			Cd	6.00E-07	N/A	N/A	N/A	6.00E-07	kidney	7.37E-03	N/A	N/A	7.37E-03
			Cr	5.28E-05	N/A	N/A	N/A	5.28E-05	liver/kidney	2.16E-01	N/A	N/A	2.16E-01
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	5.96E-03	N/A	N/A	5.96E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	8.45E-03	N/A	N/A	8.45E-03
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.19E-02	N/A	N/A	2.19E-02
			Sb	N/A	N/A	N/A	N/A	N/A	blood	1.74E-03	N/A	N/A	1.74E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	8.83E-03	N/A	N/A	8.83E-03
			Zn	N/A	N/A	N/A	N/A	N/A	blood	5.06E-03	N/A	N/A	5.06E-03
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	8.86E-07	N/A	N/A	8.86E-07
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	3.03E-06	N/A	N/A	3.03E-06
			Benzo(a)anthracene	2.67E-06	N/A	N/A	N/A	2.67E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	8.43E-06	N/A	N/A	N/A	8.43E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	2.24E-06	N/A	N/A	N/A	2.24E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	6.17E-07	N/A	N/A	N/A	6.17E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	1.82E-07	N/A	N/A	N/A	1.82E-07	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1.26E-07	N/A	N/A	N/A	1.26E-07	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	2.80E-04	N/A	N/A	2.80E-04
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	1.84E-06	N/A	N/A	1.84E-06
			Indeno(1,2,3-cd)pyrene	2.01E-07	N/A	N/A	N/A	2.01E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	5.19E-09	N/A	N/A	N/A	5.19E-09	liver/CNS	5.05E-06	N/A	N/A	5.05E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	5.91E-04	N/A	N/A	5.91E-04
			2,4'-DDD	2.39E-09	N/A	N/A	N/A	2.39E-09	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	2.93E-10	N/A	N/A	N/A	2.93E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	1.18E-09	N/A	N/A	N/A	1.18E-09	CNS/reproductive/liver	1.62E-05	N/A	N/A	1.62E-05
			4,4'-DDD	9.43E-09	N/A	N/A	N/A	9.43E-09	N/A	N/A	N/A	N/A	N/A

Table 9.1.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			4,4'-DDE	1.90E-08	N/A	N/A	N/A	1.90E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	4.00E-09	N/A	N/A	N/A	4.00E-09	CNS/reproductive/liver	5.49E-05	N/A	N/A	5.49E-05
			alpha-Chlordane	6.63E-09	N/A	N/A	N/A	6.63E-09	liver	2.38E-05	N/A	N/A	2.38E-05
			Dieldrin	1.87E-07	N/A	N/A	N/A	1.87E-07	liver/CNS	5.46E-04	N/A	N/A	5.46E-04
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			gamma-BHC	9.64E-09	N/A	N/A	N/A	9.64E-09	liver/kidney	6.82E-05	N/A	N/A	6.82E-05
			gamma-Chlordane	4.41E-08	N/A	N/A	N/A	4.41E-08	liver	1.58E-04	N/A	N/A	1.58E-04
			Total PCBs	2.80E-06	N/A	N/A	N/A	2.80E-06	CNS/immune system/liver	6.54E-02	N/A	N/A	6.54E-02
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	7.61E-04	N/A	N/A	7.61E-04
			Chemical Total	1.5E-03	N/A	N/A	N/A	1.5E-03	N/A	1.5E+00	N/A	N/A	1.5E+00
		Exposure Point Total						1.5E-03					1.5E+00
		Forage Fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	6.55E-04	N/A	N/A	6.55E-04
			As	1.47E-03	N/A	N/A	N/A	1.47E-03	liver/kidney/bladder	1.21E+00	N/A	N/A	1.21E+00
			Cd	1.77E-07	N/A	N/A	N/A	1.77E-07	kidney	2.18E-03	N/A	N/A	2.18E-03
			Cr	3.15E-05	N/A	N/A	N/A	3.15E-05	liver/kidney	1.29E-01	N/A	N/A	1.29E-01
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	2.81E-02	N/A	N/A	2.81E-02
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	2.22E-01	N/A	N/A	2.22E-01
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	5.58E-03	N/A	N/A	5.58E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	3.58E-03	N/A	N/A	3.58E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	7.24E-02	N/A	N/A	7.24E-02
			Zn	N/A	N/A	N/A	N/A	N/A	blood	3.98E-02	N/A	N/A	3.98E-02
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	5.96E-05	N/A	N/A	5.96E-05
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	3.62E-06	N/A	N/A	3.62E-06
			Benzo(a)anthracene	3.19E-07	N/A	N/A	N/A	3.19E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.56E-06	N/A	N/A	N/A	2.56E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	3.16E-07	N/A	N/A	N/A	3.16E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	3.47E-07	N/A	N/A	N/A	3.47E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	7.38E-08	N/A	N/A	N/A	7.38E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.96E-08	N/A	N/A	N/A	4.96E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	1.10E-04	N/A	N/A	1.10E-04
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	6.04E-05	N/A	N/A	6.04E-05
			Indeno(1,2,3-cd)pyrene	1.65E-07	N/A	N/A	N/A	1.65E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	3.56E-05	N/A	N/A	3.56E-05
			Naphthalene	1.73E-08	N/A	N/A	N/A	1.73E-08	liver/CNS	1.68E-05	N/A	N/A	1.68E-05
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	7.72E-05	N/A	N/A	7.72E-05
			2,4'-DDD	6.05E-10	N/A	N/A	N/A	6.05E-10	N/A	N/A	N/A	N/A	N/A

Table 9.1.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			2,4'-DDE	7.96E-09	N/A	N/A	N/A	7.96E-09	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	3.52E-09	N/A	N/A	N/A	3.52E-09	CNS/reproductive/liver	4.83E-05	N/A	N/A	4.83E-05
			4,4'-DDD	1.52E-07	N/A	N/A	N/A	1.52E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	4.45E-07	N/A	N/A	N/A	4.45E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	5.70E-08	N/A	N/A	N/A	5.70E-08	CNS/reproductive/liver	7.83E-04	N/A	N/A	7.83E-04
			alpha-Chlordane	5.81E-08	N/A	N/A	N/A	5.81E-08	liver	2.09E-04	N/A	N/A	2.09E-04
			Dieldrin	1.51E-06	N/A	N/A	N/A	1.51E-06	liver/CNS	4.40E-03	N/A	N/A	4.40E-03
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	9.14E-06	N/A	N/A	9.14E-06
			gamma-BHC	1.66E-08	N/A	N/A	N/A	1.66E-08	liver/kidney	1.17E-04	N/A	N/A	1.17E-04
			gamma-Chlordane	1.13E-07	N/A	N/A	N/A	1.13E-07	liver	4.05E-04	N/A	N/A	4.05E-04
			Total PCBs	5.39E-05	N/A	N/A	N/A	5.39E-05	CNS/immune system/liver	1.26E+00	N/A	N/A	1.26E+00
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.98E-02	N/A	N/A	1.98E-02
-			Chemical Total	1.6E-03	N/A	N/A	N/A	1.6E-03	N/A	3.0E+00	N/A	N/A	3.0E+00
-		Exposure Point Total						1.6E-03					3.0E+00
	Exposure Medium Total							3.1E-03					4.5E+00
Medium Total								3.1E-03					4.5E+00
Receptor Total							Receptor Risk Total	3.1E-03				Receptor HI Total	4.5E+00

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

(b) RME cancer risks are based on age-adjusted exposure factors.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure for Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	9.21E-05	N/A	N/A	9.21E-05
			As	6.58E-06	N/A	N/A	N/A	6.58E-06	liver/kidney/bladder	2.71E-02	N/A	N/A	2.71E-02
			Cd	5.61E-09	N/A	N/A	N/A	5.61E-09	kidney	3.45E-04	N/A	N/A	3.45E-04
			Cr	1.49E-06	N/A	N/A	N/A	1.49E-06	liver/kidney	3.06E-02	N/A	N/A	3.06E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.23E-03	N/A	N/A	1.23E-03
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	3.16E-03	N/A	N/A	3.16E-03
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	3.21E-03	N/A	N/A	3.21E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	2.26E-03	N/A	N/A	2.26E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	1.33E-04	N/A	N/A	1.33E-04
			Zn	N/A	N/A	N/A	N/A	N/A	blood	3.90E-04	N/A	N/A	3.90E-04
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	1.96E-06	N/A	N/A	1.96E-06
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	6.59E-07	N/A	N/A	6.59E-07
			Benzo(a)anthracene	2.94E-08	N/A	N/A	N/A	2.94E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	3.20E-07	N/A	N/A	N/A	3.20E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	3.68E-08	N/A	N/A	N/A	3.68E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2.33E-08	N/A	N/A	N/A	2.33E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	3.31E-09	N/A	N/A	N/A	3.31E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1.45E-08	N/A	N/A	N/A	1.45E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	1.39E-05	N/A	N/A	1.39E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	3.64E-06	N/A	N/A	3.64E-06
			Indeno(1,2,3-cd)pyrene	2.23E-08	N/A	N/A	N/A	2.23E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	7.08E-06	N/A	N/A	7.08E-06
			Naphthalene	4.13E-10	N/A	N/A	N/A	4.13E-10	liver/CNS	2.01E-06	N/A	N/A	2.01E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	1.98E-05	N/A	N/A	1.98E-05
			2,4'-DDD	2.07E-11	N/A	N/A	N/A	2.07E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	4.31E-12	N/A	N/A	N/A	4.31E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	7.15E-12	N/A	N/A	N/A	7.15E-12	CNS/reproductive/liver	4.90E-07	N/A	N/A	4.90E-07
			4,4'-DDD	4.14E-11	N/A	N/A	N/A	4.14E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	4.93E-11	N/A	N/A	N/A	4.93E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	6.63E-11	N/A	N/A	N/A	6.63E-11	CNS/reproductive/liver	4.55E-06	N/A	N/A	4.55E-06
			alpha-Chlordane	2.31E-11	N/A	N/A	N/A	2.31E-11	liver	4.14E-07	N/A	N/A	4.14E-07
			Dieldrin	9.24E-10	N/A	N/A	N/A	9.24E-10	liver/CNS	1.35E-05	N/A	N/A	1.35E-05

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	7.05E-07	N/A	N/A	7.05E-07
			gamma-BHC	1.81E-10	N/A	N/A	N/A	1.81E-10	liver/kidney	6.39E-06	N/A	N/A	6.39E-06
			gamma-Chlordane	1.34E-10	N/A	N/A	N/A	1.34E-10	liver	2.40E-06	N/A	N/A	2.40E-06
			Total PCBs	1.40E-08	N/A	N/A	N/A	1.40E-08	CNS/immune system/liver	1.63E-03	N/A	N/A	1.63E-03
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	1.24E-05	N/A	N/A	1.24E-05
			Chemical Total	8.5E-06	N/A	N/A	N/A	8.5E-06	N/A	7.0E-02	N/A	N/A	7.0E-02
		Exposure Point Total						8.5E-06					7.0E-02
	Exposure Medium Total							8.5E-06					7.0E-02
	Fish Tissue	Forage Fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	3.11E-04	N/A	N/A	3.11E-04
			As	1.40E-04	N/A	N/A	N/A	1.40E-04	liver/kidney/bladder	5.75E-01	N/A	N/A	5.75E-01
			Cd	1.69E-08	N/A	N/A	N/A	1.69E-08	kidney	1.03E-03	N/A	N/A	1.03E-03
			Cr	3.00E-06	N/A	N/A	N/A	3.00E-06	liver/kidney	6.13E-02	N/A	N/A	6.13E-02
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	1.34E-02	N/A	N/A	1.34E-02
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	1.05E-01	N/A	N/A	1.05E-01
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	2.65E-03	N/A	N/A	2.65E-03
			Sb	N/A	N/A	N/A	N/A	N/A	blood	1.70E-03	N/A	N/A	1.70E-03
			Se	N/A	N/A	N/A	N/A	N/A	N/A	3.44E-02	N/A	N/A	3.44E-02
			Zn	N/A	N/A	N/A	N/A	N/A	blood	1.89E-02	N/A	N/A	1.89E-02
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	2.83E-05	N/A	N/A	2.83E-05
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	1.72E-06	N/A	N/A	1.72E-06
			Benzo(a)anthracene	3.04E-08	N/A	N/A	N/A	3.04E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.44E-07	N/A	N/A	N/A	2.44E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	3.00E-08	N/A	N/A	N/A	3.00E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	3.30E-08	N/A	N/A	N/A	3.30E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	7.02E-09	N/A	N/A	N/A	7.02E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.72E-09	N/A	N/A	N/A	4.72E-09	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	5.22E-05	N/A	N/A	5.22E-05
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	2.87E-05	N/A	N/A	2.87E-05
			Indeno(1,2,3-cd)pyrene	1.57E-08	N/A	N/A	N/A	1.57E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	1.69E-05	N/A	N/A	1.69E-05
			Naphthalene	1.64E-09	N/A	N/A	N/A	1.64E-09	liver/CNS	7.98E-06	N/A	N/A	7.98E-06
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	3.67E-05	N/A	N/A	3.67E-05
			2,4'-DDD	5.75E-11	N/A	N/A	N/A	5.75E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	7.57E-10	N/A	N/A	N/A	7.57E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	3.34E-10	N/A	N/A	N/A	3.34E-10	CNS/reproductive/liver	2.30E-05	N/A	N/A	2.30E-05
			4,4'-DDD	1.44E-08	N/A	N/A	N/A	1.44E-08	N/A	N/A	N/A	N/A	N/A

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure for Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			4,4'-DDE	4.23E-08	N/A	N/A	N/A	4.23E-08	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	5.42E-09	N/A	N/A	N/A	5.42E-09	CNS/reproductive/liver	3.72E-04	N/A	N/A	3.72E-04
			alpha-Chlordane	5.52E-09	N/A	N/A	N/A	5.52E-09	liver	9.91E-05	N/A	N/A	9.91E-05
			Dieldrin	1.44E-07	N/A	N/A	N/A	1.44E-07	liver/CNS	2.09E-03	N/A	N/A	2.09E-03
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	4.35E-06	N/A	N/A	4.35E-06
			gamma-BHC	1.58E-09	N/A	N/A	N/A	1.58E-09	liver/kidney	5.58E-05	N/A	N/A	5.58E-05
			gamma-Chlordane	1.07E-08	N/A	N/A	N/A	1.07E-08	liver	1.92E-04	N/A	N/A	1.92E-04
			Total PCBs	5.12E-06	N/A	N/A	N/A	5.12E-06	CNS/immune system/liver	5.98E-01	N/A	N/A	5.98E-01
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	9.42E-03	N/A	N/A	9.42E-03
			Chemical Total	1.5E-04	N/A	N/A	N/A	1.5E-04	N/A	1.4E+00	N/A	N/A	1.4E+00
		Exposure Point Total						1.5E-04					1.4E+00
	Exposure Medium Total							1.5E-04					1.4E+00
Medium Total								1.6E-04					1.5E+00
Receptor Total							Receptor Risk Total	1.6E-04				Receptor HI Total	1.5E+00

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			As	9.50E-06	N/A	N/A	N/A	9.50E-06	liver/kidney/bladder	N/A	N/A	N/A	N/A
			Cd	8.02E-09	N/A	N/A	N/A	8.02E-09	kidney	N/A	N/A	N/A	N/A
			Cr	2.13E-06	N/A	N/A	N/A	2.13E-06	liver/kidney	N/A	N/A	N/A	N/A
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	N/A	N/A	N/A	N/A
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	N/A	N/A	N/A	N/A
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	N/A	N/A	N/A	N/A
			Sb	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Se	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Zn	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	4.36E-08	N/A	N/A	N/A	4.36E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	4.74E-07	N/A	N/A	N/A	4.74E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	5.46E-08	N/A	N/A	N/A	5.46E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	3.46E-08	N/A	N/A	N/A	3.46E-08	N/A	N/A	N/A	N/A	N/A
			Chrysene	4.90E-09	N/A	N/A	N/A	4.90E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2.14E-08	N/A	N/A	N/A	2.14E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	3.30E-08	N/A	N/A	N/A	3.30E-08	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	6.13E-10	N/A	N/A	N/A	6.13E-10	liver/CNS	N/A	N/A	N/A	N/A
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	3.00E-11	N/A	N/A	N/A	3.00E-11	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	6.25E-12	N/A	N/A	N/A	6.25E-12	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	1.04E-11	N/A	N/A	N/A	1.04E-11	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	6.00E-11	N/A	N/A	N/A	6.00E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDE	7.15E-11	N/A	N/A	N/A	7.15E-11	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	9.61E-11	N/A	N/A	N/A	9.61E-11	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			alpha-Chlordane	3.35E-11	N/A	N/A	N/A	3.35E-11	liver	N/A	N/A	N/A	N/A
			Dieldrin	1.34E-09	N/A	N/A	N/A	1.34E-09	liver/CNS	N/A	N/A	N/A	N/A

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk: Ingestion & Dermal	Carcinogenic Risk: Inhalation	Carcinogenic Risk: Dermal (a)	Carcinogenic Risk: External (Radiation)	Carcinogenic Risk: Exposure Routes Total	Non-Carcinogenic Hazard Quotient: Primary Target Organ(s)	Non-Carcinogenic Hazard Quotient: Ingestion & Dermal	Non-Carcinogenic Hazard Quotient: Inhalation	Non-Carcinogenic Hazard Quotient: Dermal (a)	Non-Carcinogenic Hazard Quotient: Exposure Routes Total
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			gamma-BHC	2.62E-10	N/A	N/A	N/A	2.62E-10	liver/kidney	N/A	N/A	N/A	N/A
			gamma-Chlordane	1.94E-10	N/A	N/A	N/A	1.94E-10	liver	N/A	N/A	N/A	N/A
			Total PCBs	2.07E-08	N/A	N/A	N/A	2.07E-08	CNS/immune system/liver	N/A	N/A	N/A	N/A
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	N/A	N/A	N/A	N/A
			Chemical Total	1.2E-05	N/A	N/A	N/A	1.2E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.2E-05					N/A
	Exposure Medium Total							1.2E-05					N/A
	Fish Tissue	Forage Fish in Breakwater Beach	Ag	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			As	1.32E-03	N/A	N/A	N/A	1.32E-03	liver/kidney/bladder	N/A	N/A	N/A	N/A
			Cd	1.59E-07	N/A	N/A	N/A	1.59E-07	kidney	N/A	N/A	N/A	N/A
			Cr	2.82E-05	N/A	N/A	N/A	2.82E-05	liver/kidney	N/A	N/A	N/A	N/A
			Cu	N/A	N/A	N/A	N/A	N/A	gastrointestinal	N/A	N/A	N/A	N/A
			Hg	N/A	N/A	N/A	N/A	N/A	developmental	N/A	N/A	N/A	N/A
			Ni	N/A	N/A	N/A	N/A	N/A	skin/kidney/reproductive	N/A	N/A	N/A	N/A
			Sb	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Se	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Zn	N/A	N/A	N/A	N/A	N/A	blood	N/A	N/A	N/A	N/A
			Acenaphthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Anthracene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	2.86E-07	N/A	N/A	N/A	2.86E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.29E-06	N/A	N/A	N/A	2.29E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	2.83E-07	N/A	N/A	N/A	2.83E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(g,h,i)perylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	3.10E-07	N/A	N/A	N/A	3.10E-07	N/A	N/A	N/A	N/A	N/A
			Chrysene	6.61E-08	N/A	N/A	N/A	6.61E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4.44E-08	N/A	N/A	N/A	4.44E-08	N/A	N/A	N/A	N/A	N/A
			Fluoranthene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Fluorene	N/A	N/A	N/A	N/A	N/A	liver	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	1.48E-07	N/A	N/A	N/A	1.48E-07	N/A	N/A	N/A	N/A	N/A
			2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	lung	N/A	N/A	N/A	N/A
			Naphthalene	1.54E-08	N/A	N/A	N/A	1.54E-08	liver/CNS	N/A	N/A	N/A	N/A
			Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Pyrene	N/A	N/A	N/A	N/A	N/A	kidneys	N/A	N/A	N/A	N/A
			2,4'-DDD	5.41E-10	N/A	N/A	N/A	5.41E-10	N/A	N/A	N/A	N/A	N/A
			2,4'-DDE	7.12E-09	N/A	N/A	N/A	7.12E-09	N/A	N/A	N/A	N/A	N/A
			2,4'-DDT	3.15E-09	N/A	N/A	N/A	3.15E-09	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			4,4'-DDD	1.36E-07	N/A	N/A	N/A	1.36E-07	N/A	N/A	N/A	N/A	N/A

Table 9.2.RME. Summary Of Receptor Risks And Hazards For COPCs Reasonable Maximum Exposure Breakwater Beach, continued

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
			4,4'-DDE	3.98E-07	N/A	N/A	N/A	3.98E-07	N/A	N/A	N/A	N/A	N/A
			4,4'-DDT	5.10E-08	N/A	N/A	N/A	5.10E-08	CNS/reproductive/liver	N/A	N/A	N/A	N/A
			alpha-Chlordane	5.20E-08	N/A	N/A	N/A	5.20E-08	liver	N/A	N/A	N/A	N/A
			Dieldrin	1.35E-06	N/A	N/A	N/A	1.35E-06	liver/CNS	N/A	N/A	N/A	N/A
			Endosulfan II	N/A	N/A	N/A	N/A	N/A	Immune system/liver	N/A	N/A	N/A	N/A
			gamma-BHC	1.49E-08	N/A	N/A	N/A	1.49E-08	liver/kidney	N/A	N/A	N/A	N/A
			gamma-Chlordane	1.01E-07	N/A	N/A	N/A	1.01E-07	liver	N/A	N/A	N/A	N/A
			Total PCBs	4.82E-05	N/A	N/A	N/A	4.82E-05	CNS/immune system/liver	N/A	N/A	N/A	N/A
			TBT	N/A	N/A	N/A	N/A	N/A	Immune system	N/A	N/A	N/A	N/A
			Chemical Total	1.4E-03	N/A	N/A	N/A	1.4E-03	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.4E-03					N/A
	Exposure Medium Total							1.4E-03					N/A
Medium Total								1.4E-03					N/A
Receptor Total							Receptor Risk Total	1.4E-03				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 10.1.CT. Risk Summary Central Tendency Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Fish Tissue	Shellfish in Breakwater Beach	As	3.2E-05	N/A	N/A	N/A	3.2E-05	N/A	N/A	N/A	N/A	N/A
			Cr	1.2E-06	N/A	N/A	N/A	1.2E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	3.3E-05	N/A	N/A	N/A	3.3E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						3.3E-05					N/A
		Forage Fish in Breakwater Beach	As	3.3E-05	N/A	N/A	N/A	3.3E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	3.3E-05	N/A	N/A	N/A	3.3E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						3.3E-05					N/A
	Exposure Medium Total							6.6E-05					N/A
Medium Total								6.6E-05					N/A
Receptor Total							Receptor Risk Total	6.6E-05				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =
Total Organ 2 HI Across All Media =

Table 10.2.CT. Risk Summary Central Tendency Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Fish Tissue	Forage Fish in Breakwater Beach	As	3.6E-05	N/A	N/A	N/A	3.6E-05	N/A	N/A	N/A	N/A	N/A
			Total PCBs	1.3E-06	N/A	N/A	N/A	1.3E-06	N/A	N/A	N/A	N/A	N/A
-			Chemical Total	3.7E-05	N/A	N/A	N/A	3.7E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						3.7E-05					N/A
	Exposure Medium Total							3.7E-05					N/A
Medium Total								3.7E-05					N/A
Receptor Total							Receptor Risk Total	3.7E-05				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

Table 10.1.RME. Risk Summary Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk (b)					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	As	3.6E-06	N/A	N/A	N/A	3.6E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	3.6E-06	N/A	N/A	N/A	3.6E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						3.6E-06					N/A
	Exposure Medium Total							3.6E-06					N/A
	Fish Tissue	Shellfish in Breakwater Beach	As	1.4E-03	N/A	N/A	N/A	1.4E-03	liver/kidney/bladder	1.2E+00	N/A	N/A	1.2E+00
			Cr	5.3E-05	N/A	N/A	N/A	5.3E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	2.7E-06	N/A	N/A	N/A	2.7E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	8.4E-06	N/A	N/A	N/A	8.4E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(b)fluoranthene	2.2E-06	N/A	N/A	N/A	2.2E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	2.8E-06	N/A	N/A	N/A	2.8E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.5E-03	N/A	N/A	N/A	1.5E-03	N/A	1.2E+00	N/A	N/A	1.2E+00
		Exposure Point Total						1.5E-03					1.2E+00
		Forage Fish in Breakwater Beach	As	1.5E-03	N/A	N/A	N/A	1.5E-03	liver/kidney/bladder	1.2E+00	N/A	N/A	1.2E+00
			Cr	3.2E-05	N/A	N/A	N/A	3.2E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.6E-06	N/A	N/A	N/A	2.6E-06	N/A	N/A	N/A	N/A	N/A
			Dieldrin	1.5E-06	N/A	N/A	N/A	1.5E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	5.4E-05	N/A	N/A	N/A	5.4E-05	CNS/immune system/liver	1.3E+00	N/A	N/A	1.3E+00
			Chemical Total	1.6E-03	N/A	N/A	N/A	1.6E-03	N/A	2.5E+00	N/A	N/A	2.5E+00
		Exposure Point Total						1.6E-03					2.5E+00
	Exposure Medium Total							3.1E-03					3.6E+00
Medium Total								3.1E-03					3.6E+00
Receptor Total							Receptor Risk Total	3.1E-03				Receptor HI Total	3.6E+00

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

(b) RME cancer risks are based on age-adjusted exposure factors.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 10.2.RME. Risk Summary Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	As	6.6E-06	N/A	N/A	N/A	6.6E-06	N/A	N/A	N/A	N/A	N/A
			Cr	1.5E-06	N/A	N/A	N/A	1.5E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	8.1E-06	N/A	N/A	N/A	8.1E-06	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						8.1E-06					N/A
	Exposure Medium Total							8.1E-06					N/A
		Forage Fish in Breakwater Beach	As	1.4E-04	N/A	N/A	N/A	1.4E-04	N/A	N/A	N/A	N/A	N/A
			Cr	3.0E-06	N/A	N/A	N/A	3.0E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	5.1E-06	N/A	N/A	N/A	5.1E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.5E-04	N/A	N/A	N/A	1.5E-04	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.5E-04					N/A
	Exposure Medium Total							1.5E-04					N/A
Medium Total								1.6E-04					N/A
Receptor Total							Receptor Risk Total	1.6E-04				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =

Total Organ 2 HI Across All Media =

Table 10.2.RME. Risk Summary Reasonable Maximum Exposure Breakwater Beach

Scenario Timeframe: Current/Future
Receptor Population: Fisher
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion & Dermal	Inhalation	Dermal (a)	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion & Dermal	Inhalation	Dermal (a)	Exposure Routes Total
Sediment	Sediment	Breakwater Beach	As	9.5E-06	N/A	N/A	N/A	9.5E-06	N/A	N/A	N/A	N/A	N/A
			Cr	2.1E-06	N/A	N/A	N/A	2.1E-06	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.2E-05	N/A	N/A	N/A	1.2E-05	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.2E-05					N/A
	Exposure Medium Total							1.2E-05					N/A
		Forage Fish in Breakwater Beach	As	1.3E-03	N/A	N/A	N/A	1.3E-03	N/A	N/A	N/A	N/A	N/A
			Cr	2.8E-05	N/A	N/A	N/A	2.8E-05	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2.3E-06	N/A	N/A	N/A	2.3E-06	N/A	N/A	N/A	N/A	N/A
			Dieldrin	1.4E-06	N/A	N/A	N/A	1.4E-06	N/A	N/A	N/A	N/A	N/A
			Total PCBs	4.8E-05	N/A	N/A	N/A	4.8E-05	N/A	N/A	N/A	N/A	N/A
			Chemical Total	1.4E-03	N/A	N/A	N/A	1.4E-03	N/A	N/A	N/A	N/A	N/A
		Exposure Point Total						1.4E-03					N/A
	Exposure Medium Total							1.4E-03					N/A
Medium Total								1.4E-03					N/A
Receptor Total							Receptor Risk Total	1.4E-03				Receptor HI Total	N/A

(a) Ingestion and dermal exposure to sediment were evaluated as a combined exposure route.

Total Organ 1 HI Across All Media =	
Total Organ 2 HI Across All Media =	

APPENDIX E

ECOLOGICAL RISK ASSESSMENT

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This Appendix contains additional information to support the ecological risk assessment. This appendix is organized in the following way:

FIGURES

TABLES

E.1 SUPPORTING INFORMATION ON THE ECOLOGICAL SETTING OF THE OFFSHORE SITES

A summary of the ecology of San Francisco Bay is presented in the ERA. This section of the Appendix presents more specific information on the invertebrate, fish, bird and mammalian species observed or likely to be present in the offshore areas of Alameda Point. Complete species lists can be found in Tables E-1 through E-4 for benthic invertebrates, fish, birds, and marine mammals, respectively.

Special status species known to occur in the Central Bay include green sturgeon (*Acipenser medirostris*), winter-run Chinook salmon (*Oncorhynchus tshawytscha*), central California steelhead (*Oncorhynchus mykiss*), Barrow's goldeneye (*Bucephala islandica*), double-crested cormorant, California least tern, California brown pelican (*Pelecanus occidentalis californicus*), western snowy plover (*Charadrius alexandrinus nivosus*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), American peregrine falcon (*Falco peregrinus anatum*), California sea lion, and harbor seal (ENTRIX, 1997). None of these species are known to nest or breed in the offshore areas, although several species are known to use adjacent upland areas for nesting or and/or foraging activities (e.g., least tern).

Additional information detailing conservation status, distribution, abundance, seasonality, life history, and occurrence in the vicinity of Alameda Point for each of the special status species is discussed below.

Chinook Salmon. The Chinook salmon is recognized to have four distinct breeding populations or races, which are unique to the Sacramento-San Joaquin River system. These races are segregated by the seasonality of their spawning activities and include spring, fall, late fall, and winter races or runs. Each race has been afforded its own management status, and currently, Central Valley spring-run (Threatened) and Sacramento River winter-run (Endangered) Chinook salmon are listed by the state and federal government (NMFS, 2001). The status of fall-run Chinook salmon is currently under review, and it is likely that this population will soon be listed as Threatened.

Chinook salmon are anadromous (they migrate from the ocean to upper reaches of rivers to reproduce), and young fish (smolts) migrate downstream to the ocean 5 to 10 months after hatching. Once downstream, they spend two to four years before completing their life cycle. Adult and smolting (juvenile sea-run) Chinook salmon are likely to occasionally stray into the Alameda Point vicinity from their migration corridor to the north and may engage in limited foraging activities; however, Chinook salmon of any race are unlikely to forage significantly around the offshore areas of Alameda Point.

Central California Steelhead. Central California steelheads are listed by the federal government as a threatened species and by the California Department of Fish and Game (CDFG) as a California Special Management Species. Steelhead historically ranged throughout the northern Pacific Ocean from Baja California to the Kamchatka Peninsula; their range currently extends from Malibu Creek in southern California to the Kamchatka Peninsula (NMFS, 2001). Steelheads are anadromous (they migrate from the ocean to upper reaches of rivers to reproduce), and young fish (smolts) generally migrate downstream to the ocean as two-year-olds. Once downstream, they spend two to three years before beginning an upstream spawning migration. Spawning runs typically occur from December through May. Unlike salmon, steelheads are iteroparous, meaning they are capable of spawning more than once before they die.

Steelheads were not collected during the 1997 habitat evaluation surveys conducted by ENTRIX (1997) in the Oakland estuary. Steelhead are known to use San Francisco Bay as a migratory route to and from the ocean and for limited foraging activities, but are unlikely to use the habitat around Alameda Point to any great extent.

Double-Crested Cormorant. The double-crested cormorant is a CDFG species of special concern and is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). It is a year-long resident along the entire coast of California and is known to frequent inland lakes, fresh, salt and estuarine waters. It is common within San Francisco Bay.

Fish comprise the bulk of the cormorant diet, and crustaceans and amphibians are ingested as food items to a lesser degree. The double-crested cormorant is a diving bird, which pursues its prey underwater and can remain submerged for about 30 seconds. It feeds diurnally and is known to roost beside water on offshore rocks, islands, steep cliffs, trees, or artificial structures (i.e., wharves, jetties, bridges). Nests are built in similar habitats as those used for roosting with the further requirement that the area be undisturbed and within 8 to 16 km (5-10 mi.) of a foraging area with a dependable food supply (ENTRIX, 1997).

Double-crested cormorants are common in the vicinity of Alameda Point. They have been observed foraging in a variety of habitats and resting upon manmade structures within the Port of Oakland (ENTRIX, 1997). A large nesting colony, estimated at more than 1,000 individuals during the 1997 ENTRIX bird surveys, exists on the eastern span of the Bay Bridge. The close proximity of the cormorant breeding colony and the associated high-energy demands of chick rearing likely makes the general area, including the area around Alameda Point, foraging habitat for this species.

California Least Tern. The California least tern is listed by the state (CDFG) and federal government (U.S. Fish and Wildlife Service) as an endangered species and by CDFG as a fully protected species. It is also afforded legal protection under the Migratory Bird Treaty Act (16 U.S.C. 703-711). California least terns are migratory and usually arrive in California in April and May. They feed diurnally, primarily on anchovy, silversides (*Atherinops sp.*), and shiner surfperch. Prey is taken near the water surface after a short plunging dive. Breeding colonies are generally located in abandoned salt ponds and along estuarine shorelines that are relatively free of predators and human disturbance. Nests are arranged in loose colonies on barren to sparsely vegetated substrate (usually sand and gravel) near the shoreline. Nesting colonies typically break up in late July to mid August.

California least terns are common from the months of April to late August. A large breeding colony (approximately 210 nests in 1997) is established each year at the western margin of Alameda Point. Surveys conducted by ENTRIX during the 1997 nesting period indicate that foraging activity seems to be concentrated to the south of Alameda Point. These findings are consistent with the findings of previous foraging surveys conducted for the Navy (DON, 1997).

California Brown Pelican. The California brown pelican is listed by the state and federal government (U.S. Fish and Wildlife Service) as an endangered species and by CDFG as a fully protected species. It also is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). The California brown pelican is found in estuarine, marine nearshore, and marine pelagic waters along the entire California coast and is known to range inland to the Salton Sea. It breeds in the California Channel Islands from March to early August and the population is concentrated within 12 miles of those islands. The California brown pelican does not breed in northern California. In northern California, they are most common along the coast from June to November, though individuals have been cited during every month of the year. Fish comprise the bulk of its diet, although crustaceans and carrion are known to be taken as food items to a lesser degree (ENTRIX, 1997).

California brown pelicans are known to forage and rest in the vicinity of Alameda Point, although sightings are infrequent as most of the foraging is concentrated in the central and western portions of the San Francisco Bay. One of the most frequently used pelican roosts within the bay is located on the breakwaters associated with the southern portion of Alameda Point (ENTRIX, 1997).

Western Snowy Plover. The western snowy plover is listed by the federal government as a threatened species and by the State of California as a state species of special concern. It also is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). This small shorebird typically occupies sandy beaches and intertidal areas of marine and estuarine habitats but is known to occur in some inland areas. Along the Pacific Coast, snowy plovers are distributed on the mainland and offshore islands from southern Washington to southern Baja California, Mexico. Nests are usually established in sparsely to nonvegetated areas of sandy beaches and estuaries. Prey items consist of intertidal and supratidal invertebrates and feeding is diurnal.

Western snowy plovers are known to winter in the San Francisco Bay Area and an estimated 250 individuals have been recorded in the bay during the breeding season. However, no snowy plovers were observed in the Alameda Point area during the bird surveys conducted during the winter and summer of 1997 (ENTRIX, 1997).

American Peregrine Falcon. The American peregrine falcon is listed by the state and by CDFG as a fully protected species. The federal government de-listed the peregrine from endangered status in 1999. It also is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). Distribution is throughout North America and within a wide variety of habitats. Prey items typically consist of other bird species, though mammals, insects, and fish are known to comprise a portion of its diet. The American peregrine falcon typically breeds near wetlands, lakes, rivers or other water-bodies and establishes its nests on high cliffs, banks, dunes, mounds, or artificial structures.

American peregrine falcons are known to reside (breeding pairs) and winter (migratory individuals) in the San Francisco Bay area. One breeding pair and a nesting female falcon were observed on the western and eastern spans (respectively) of the Bay Bridge during bird surveys conducted in June-July 1997. One or two of the falcons were observed to take California least terns from the Alameda Point breeding colony (ENTRIX, 1997).

Barrow's Goldeneye. The Barrow's goldeneye is a CDFG species of special concern and is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). The Barrow's goldeneye is an uncommon winter resident along the central California coast, mainly occurring in the San Francisco Bay and vicinity, and Marin and Sonoma Counties. The Barrow's goldeneye is found on estuarine lagoons and bays, and brackish lacustrine waters (Zeiner et al., 1990).

The Barrow's goldeneye feeds primarily on animal foods, mainly mollusks and crustaceans in saltwater, and aquatic insects and crustaceans in freshwater, but also eats fish eggs and young. They also eat algae and the seeds, leaves, and stems of other aquatic plants. Juveniles eat almost entirely aquatic invertebrates, primarily in the form of insects (Zeiner et al., 1990). The Barrow's goldeneye is a diving bird, taking food from the bottom and preferring water 0.9-3 m (3-10 ft) deep (Palmer, 1976a and 1976b). They will also glean food from submerged plants. At low tide, the Barrow's goldeneye occasionally feeds in water 8-15 cm (3-6 in) deep by immersing its head, but does not tip up (Palmer, 1976a and 1976b). The Barrow's goldeneye prefers to feed on rocky bottoms, at least on coastal wintering grounds (Palmer, 1976a and 1976b). The Barrow's goldeneye feeds diurnally, resting in feeding areas and seeking sheltered waters during windy conditions. At night, the Barrow's goldeneye rests on sheltered, open water (Zeiner et al., 1990).

A few individuals identified as Barrow's goldeneye were observed during winter bird surveys near Alameda Point in 1997 (ENTRIX, 1997), which is consistent with data from others indicating that it is an uncommon winter resident along the California coast.

White-Tailed Kite. The white-tailed kite is a CDFG fully protected species and is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). The white-tailed kite is a common to uncommon, yearlong resident in coastal and valley lowlands. The white-tailed kite has extended its range and increased its numbers in recent decades. The white-tailed kite inhabits herbaceous and open stages of most habitats, however is rarely found away from agricultural areas (Zeiner et al., 1990).

Foraging in undisturbed, open grasslands, meadows, farmlands and emergent wetlands, white-tailed kites feed primarily on voles and other small, diurnal mammals, and occasionally on birds, insects, reptiles, and amphibians. Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets. Nests are located near open foraging areas (Zeiner et al., 1990).

The white-tailed kite is a year-round resident in San Francisco Bay but was not recorded in bird surveys conducted by ENTRIX in 1997 (ENTRIX, 1997). The white-tailed kite is not likely to forage in or near Seaplane Lagoon, but could occasionally take least tern chicks from the colony at Alameda Point. If they forage to any extent at Alameda Point, they are likely to prefer foraging in the nearby wetlands.

Cooper's Hawk. The Cooper's hawk is a CDFG species of special concern and is afforded legal protections under the Migratory Bird Treaty Act (16 U.S.C. 703-711). The Cooper's hawk is a permanent breeding resident throughout most of the wooded areas of California, ranging from sea level to above 9,000 ft. Dense stands of live oak, riparian deciduous, or other forested habitats near water are used by the Cooper's hawk most frequently (Zeiner et al., 1990).

Cooper's hawks nest in deciduous trees in crotches or cavities that are usually 20 to 50 ft above the ground. They have also been found to nest in conifers on horizontal branches or in the main crotch. Nests are generally placed in second growth coniferous stands or in the deciduous riparian areas nearest streams. Breeding occurs from March through August, with the peak activity taking place from May through July. The Cooper's hawk utilizes broken woodland and habitat edges for hunting. The Cooper's hawk diet consists of small birds, small mammals, reptiles, and amphibians (Zeiner et al., 1990).

The Cooper's hawk is a year-round resident in San Francisco Bay but was not recorded in bird surveys conducted by ENTRIX in 1997 (ENTRIX, 1997). The Cooper's hawk is not likely to forage in or near Seaplane Lagoon, but could possibly take least terns and chicks from the colony at Alameda Point.

California Sea Lion. The California sea lion is afforded legal protection under guidelines established through the Marine Mammal Protection Act. California sea lions range from Vancouver Island to Nayarit (western Mexico). They are common in California, and are typically found near shore on the open outer coast, but are also frequent visitors of bays and estuaries. Breeding occurs from Mazatlan in the south to the Channel Islands in California. A few pups are born on islands farther north including the Farallon Islands (Nowak, 1991). Juveniles and adults are known to migrate north from these rookeries as far as Vancouver Island.

The California sea lion commonly forages in the San Francisco Bay and delta and has established regular haulouts at Pier 39 in San Francisco. No known breeding occurs in San Francisco Bay (Federal Register 2005). California sea lion is known to forage occasionally in the vicinity of Alameda Point (ENTRIX, 1997).

Harbor Seal. The harbor seal is afforded legal protection under guidelines established through the Marine Mammal Protection Act. The harbor seal is nonmigratory and can be found along shorelines and in estuaries throughout North America, Europe, and Asia. It is generally a solitary animal, although it is known to congregate at regular haulouts and in breeding colonies. The seal is a fairly common year-long resident in coastal California and within the San Francisco Bay. It has established regular haulouts at the Castro Rocks near the Richmond-San Rafael Bridge, Corte Madera Marsh, and on lower Tubbs Island in San Pablo Bay (United States Environmental Protection Agency [U.S. EPA] et al., 1996). Its diet consists primarily of fish, though crustaceans comprise a large component of the diet of newly weaned pups (Nowak, 1991).

Harbor seals have been documented in the area around Alameda Point and are known to forage in the vicinity; a harbor seal was observed with a captured adult salmon near the Alameda Point during July 1997 biological surveys conducted by ENTRIX (ENTRIX, 1997). Haulouts have been observed along the breakwaters along the southern side of Alameda Point. However, while the presence of harbor seals in the vicinity of Alameda Point been documented, it is unlikely that the seals use the offshore areas to any great extent. A specific discussion regarding the potential for harbor seal exposure can be found in Attachment 1 to this appendix.

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Table E-1. Invertebrates in Offshore Sediment at Alameda Point

SPECIES (AND REFERENCES)	
ANNELIDS	**CRUSTACEANS (continued)**
Brania brevipharyngeals [1S]	*Pacificanthomysis nephrophthalma* [1S]
Capitella capitata [1W,1S,1B,1O]	*Palaemon macrodactylus* [1S]
Chaetozone spp. [1S]	*Paranthura elegans* [1S,1B,1O]
Cirriformia spirabranchals [1S,1B,1O]	*Sphaeroma quoyanum* [1S]
Cossura pygodactylata [1S,1B,1O]	*Stenothoe valida* [1S]
Dorvillea rudolphi [1S,1B,1O]	*Synchalidium cf. Miraculum* [1S,1B,1O]
Etone lighti [1S]	*Upogebia pugettensis* [1S]
Euchone limnicola [1S,1B,1O]	*Zeuxo normani* [1S,1O]
Eumida longicornuta [1S,1B]	
Eusyllis transecta [1S,1B,1O]	**ECHINODERMS**
Exogone lourei [1S,1B,1O]	
Glycinde polynatha [1S,1B,1O]	*Amphioda spp.* [1S,1B,1O]
Harmothoe imbricata [1S,1B,1O]	*Unidentified Holothuroid* [1S,1B,1O]
Heteromastus filiformis [1S,1B,1O]	
Leitoscoloplos pugettensis [1S,1B,1O]	**MOLLUSCS**
Mediomastus spp. [1R,1S,1B,1O]	
Neanthes succina [1S]	*Cryptomya californica* [1S,1B,1O]
Nephtys caecoides [1S,1B,1O]	*Gemma gemma* [1W,1S,1B]
Nephtys cornuta franciscana [1S,1B,1O]	*Macoma balthica* [1S,1B,1O]
Notomastus tenuis [1S,1O]	*Musculista senhousia* [1S,1B,1O]
Unidentified Oligochaete [IW,IR,1S,IB,IO]	*Nucella sp.* [1S]
Unidentified Polychaete [1S,1B]	*Nuculana spp.* [1S,1B]
Polydora cornuta [1W,1R,1S,1O]	*Phiine sp.* [1S,1B,1O]
Pseudopolydora kempi [1S,1B,IO]	*Potamocorbula amurensis* [1S,1B,1O]
Sphaerosyllis californiensis [IS,1B,IO]	*Tapes japonica* [1S,1B,1O]
Spiophanes missionensis [IS,IB,IO]	*Theora fragilis* [1S,1B,1O]
Tharyx acutus [1S,1B,10]	
	NEMERTEA
CRUSTACEANS	*Cerebratatulus spp.* [1S,1B,1O]
	Unidentified Nemertea [1W,1R,1S,1B,1O]
Ampelisca abdita [1W,1S,1B,1O]	
Corophium alienense [1S,1B,1O]	**MISCELLANEOUS OTHERS**
Blacktail Bay Shrimp [1S,1B]	*Unidentified Ascidiacea* [1S,1B,1O]
Eusarsiella zostericoloa [1S,1B,1O]	*Unidentified Hydrozoa* [1R,1S]
Grandidierella japonica [1S,1B,1O]	*Unidentified Nematodes* [1S,1B,1O]
Hemileucon hinumensis [1W,1S,1B,1O]	
Nebalia pugettensis [1S]	

[1W] - West Beach Landfill Wetland [1R] - Runway Wetland [1S] - Sea Plane Lagoon
[1B] - Western Bayside [1O] - Oakland Inner Harbor

Conservation Status of Species

Status of species was reviewed at the California Department of Fish and Game Habitat Conservation Planning Branch website on December 9, 2005: http://www.dfg.ca.gov/hcpb/species/search_species.shtml

None of the species listed in the table is listed as a Species of Special Concern according to the July 2005 California Department of Fish and Game (CDFG) Natural Diversity Database.

Reference for Occurrence

California Department of Fish and Game. (CDFG). 1994a. Unpublished data from the fish, shrimp, and crab trawl surveys performed by CDFG from 1987 through 1988 at station 142 (latitude 37.45.54, longitude 122.18.01, depth 3.9 meters), near NAS Alameda.

California Department of Fish and Game. (CDFG). 1994b. Unpublished data from the fish, shrimp, and crab trawl surveys performed by CDFG from 1984 through 1988 at station 110 (latitude 37.47.22, longitude 122.21.22, depth 115 meters), near NAS Alameda.

PRC Environmental Management, Inc. (PRC). 1993. Benthic infauna surveys conducted for the NAS Alameda Ecological Risk Assessment at the following five locations: West Beach Landfill Wetland (1W), Runway Wetland (1R), Sea Plane Lagoon (IS), Western Bayside (1B), and Oakland Inner Harbor (1O).

Table E-2. Marine Fish Species Potentially Occurring at Alameda Point

Common Name	Scientific Name	Status
Yellowfin goby	*Acanthogobius flavimanus*	None
White sturgeon	*Acipenser sp.*	None
Green sturgeon	*Acipenser sp.*	SSC, FPT
American shad	*Alosa sapidissima*	None
Topsmelt	*Atherinopsis affinis*	None
Jacksmelt	*Atherinopsis californiensis*	None
Speckled sanddab	*Citharichthys sigmaeus*	None
Pacific herring	*Clupea harengeus pallasi.*	None
Shiner surfperch	*Cymatogaster aggregata*	None
Northern anchovy	*Engraulis mordax*	None
Pacific lamprey	*Entosphenus tridentatus*	None
Pacific staghorn sculpin	*Leptocottus armatus*	None
Striped bass	*Morone saxatilis*	None
Brown smoothhound shark	*Mustlus henlei*	None
Bat ray	*Myliobatis californicus*	None
Steelhead trout	*Oncorhynchus mykiss*	SSC/FT
Chinook salmon	*Oncorhynchus tshawytscha*	FT
English sole	*Parophrys vetulus*	None
White seaperch	*Phanerodon furcatus*	None
Starry flounder	*Platichthys stellatus*	None
Big skate	*Raja binoculata*	None
Spiny dogfish	*Squalus acanthias*	None
Chameleon goby	*Tridentiger trigonocephalus*	None

SSC California Department of Fish and Game (CDFG) Species of Special Concern
FT Federal Threatened Species
FPT Federal Proposed Threatened Species

Conservation Status of Species

Status of species was reviewed at the California Department of Fish and Game Habitat Conservation Planning Branch website on December 9, 2005: http://www.dfg.ca.gov/hcpb/species/search_species.shtml

None of the species listed in the table is listed as a Species of Special Concern according to the July 2005 CDFG Natural Diversity Data Base.

Reference for Occurrence

ENTRIX. 1997. *Habitat Evaluation, Port of Oakland 50-ft Deepening Project.* Prepared in association with Hartman Consulting Corporation, Merkel & Associates, Inc., Uribe & Associates, and Laurel Marcus & Associates. Project No. 377301. December 17.

Table E-3. Birds Occurring in Alameda Point Environs

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
FAMILY GAVIDAE					
Red-throated Loon[1] *Gavia stellata*	None	Yes	Winter	O ★	Carnivore/Omnivore (fish, crustaceans, leeches, snails, aquatic insects, other invertebrates)
Pacific Loon[7] *Gavia arctica*	None	Yes	Winter		Fish, aquatic invertebrates, reptiles, amphibians, insects
Common Loon[1,3] *Gavia immer*	SSC (nest colony)	Yes	Winter	O ★	Carnivore/Omnivore (fish, crustaceans, aquatic plants, algae, snails, leeches, frogs, salamanders, aquatic insects)
Pied-billed Grebe[1,3,4] *Podilymbus podiceps*	None	Yes	Winter	O ★	Carnivore/Omnivore (insects, crustaceans, fish, amphibians, mollusks, leeches, aquatic plants; young: insects)
Red-necked Grebe[7] *Podiceps grisegena*	None	Yes	Winter		Aquatic invertebrates, fish
Horned Grebe[1,4] *Podiceps auritus*	None	Yes	Winter	O ★	Carnivore (small fish, crustaceans, insects)
Eared Grebe[1,3,4] *Podiceps nigricollis*	None	Yes	Winter	O ★	Carnivore (aquatic and land insects and larvae, crustaceans, mollusks, inverts, small fish, amphibians)
Western Grebe[1,3,4] *Aechmophorus occidentalis*	None	Yes	Winter	O ★	Carnivore/Omnivore (fish, insects, other invertebrates, rarely amphibians and plants)
Clark's Grebe[1,3,4] *Aechmophorus clarkii*	None	Yes	Winter	O ★	Carnivore (fish, insects, other invertebrates)
FAMILY PROCELLARIIDAE					
Sooty Shearwater[1] *Puffinus griseus*	None	Yes	Transient	O ★	Carnivore (fish, shrimp)
FAMILY HYDROBATIDAE					
Fork-tailed Storm Petrel[1] *Oceanodroma furcata*	SSC (rookery)	Yes	Transient	O ★	Carnivore (fish, crustaceans, carrion)
FAMILY PELICANIDAE					
American White Pelican[1] *Pelecanus erythrorhynchos*	SSC (nest colony)	Yes	Transient	W, O ★	Carnivore (fish, occasionally amphibians and crustaceans)
California Brown Pelican[1,3] *Pelecanus occidentalis californicus*	FE (nest colony & communal roosts) SE (nest colony & communal roosts) CFP	Yes	Summer Transient	IBW, O ★	Carnivore (fish, occasionally crustaceans, carrion)
FAMILY PHALACROCORACIDAE					
Double-crested Cormorant[1,3,4,5] *Phalacrocorax auritis*	SSC	Yes	All year	O, IBW ★	Carnivore (fish, also crustaceans and amphibians)
Brandt's Cormorant[1] *Phalacrocorax penicillatus*	None	Yes	All year	O, IBW ★	Carnivore (fish, crustaceans)
Pelagic Cormorant[1] *Phalacrocorax pelagicus*	None	Yes	All year	O, IBW ★	Carnivore (fish, crustaceans)

Table E-3. Birds Occurring in Alameda Point Environs (page 2 of 8)

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
FAMILY ARDEIDAE					
Great Blue Heron[1,4,5] *Ardea herodias*	None	Yes	All year	W, G ★	Carnivore (fish, also small rodents, amphibians, snakes, lizards, insects, crustaceans, occasionally small birds)
Cattle Egret[6] *Bubulcus ibis*	None	Yes	Winter	W, G ★	Carnivore (large insects and other arthropods, also worms, amphibians, reptiles, small mammals)
Great Egret[1,3,4] *Casmerodius albus*	None	Yes	All year	W, G ★	Carnivore (fish, amphibs, snakes, snails, crustaceans, insects, small mammals)
Snowy Egret[1,3,4,5] *Egretta thula*	None	Yes	All year	W, B, IBW, RR ★	Carnivore (small fish, crustaceans, large insects, also amphibians, reptiles, worms, snails, small mammals)
Black-crowned Night-Heron[1,3,4,5] *Nycticorax nycticorax*	None	Yes	All year	W, BW, RR, IBW ★	Carnivore (fishes, crustaceans, aquatic invertebrates, amphibians, reptiles, small mammals)
FAMILY ANATIDAE					
Snow Goose[1] *Chen caerulescens*	None	Yes	Winter	W ★	Herbivore (seeds, stems, roots, berries)
Canada Goose[1,4,5] *Branta canadensis*	FT, Delisted (wintering Aleutian subspecies)	Yes	Winter	W, G, H ★	Herbivore (green shoots and seeds of grains and wild grasses and forbs, aquatic plants)
Green-winged Teal[1,4] *Anas crecca*	HS	Yes	Winter	W ★	Omnivore (seeds, leaves, and stems of aquatic plants, terrestrial grasses, forbs, grains)
Blue-winged Teal[4] *Anas discors*	HS	Yes	Winter	W, O	Omnivore (seeds, vegetative parts of plants, mollusks, insects, crustaceans)
Mallard[1,4,5] *Anas platyrhynchos*	HS	Yes	All year	W, O ★	Herbivore/Omnivore (grains, seeds, leaves of aquatic plants, grasses, other green vegetation, aquatic insects, also snails, earthworms, tadpoles, crustaceans, small fish)
Northern Pintail[1,4] *Anas acuta*	HS	Yes	All year	W ★	Omnivore (aquatic plant seeds, wild grasses, forbs, grains, insects, crustaceans, mollusks, worms, stems, leaves)
Cinnamon Teal[1,4,5] *Anas cyanoptera*	HS	Yes	All year	W ★	Omnivore (plant matter, seeds and vegetative parts of sedges, pondweeds, grasses, mollusks, insects)
Northern Shoveler[1,4] *Anas clypeata*	None	Yes	All year	W ★	Omnivore (phyto- and zooplankton, including algae, crustaceans, and insect larvae, also seeds and other parts of aquatic plants, mollusks, aquatic insects, small fish)
Gadwall[1,4] *Anas strepera*	HS	Yes	Winter	W	Herbivore/Omnivore (leaves and stems of aquatic plants, seeds and cultivated grains, also insects, mollusks, crustaceans)
Eurasion Wigeon[1,4] *Anas penelope*	None	Yes	Winter	W ★	Herbivore/Omnivore(stems and leafy parts of plants, upland grassess and clovers, insects ingests gravel)
American Wigeon[1,3,4] *Anas americana*	HS	Yes	Winter	W, O ★	Omnivore (leaves, stems of aquatic plants and terrestrial grasses and forbs, also crops–lettuce, alfalfa, clover, some seeds, waste grain; young: insects, invertebrates)
Canvasback[1,4] *Aythya valisneria*	HS, Delisted	Yes	Winter	O, W ★	Omnivore (seeds, tubers, leaves, stems of aquatic plants, aquatic mollusks, crustaceans, worms, insects, fish, invertebrates)
Greater Scaup[1,4] *Aythya marila*	HS	Yes	Winter	O ★	Omnivore (mollusks, crustaceans, insects)

Table E-3. Birds Occurring in Alameda Point Environs (page 3 of 8)

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
Lesser Scaup[1,4] *Aythya affinis*	None	Yes	Winter	O ★	Omnivore (aquatic invertebrates, mollusks, insects, crustaceans, leaves, stems, seeds aquatic plants)
Oldsquaw[1] *Clangula hyemalis*	None	Yes	Winter	O ★	Omnivore (small crustaceans, mollusks, aquatic insects, small fishes, plant matter)
Black Scoter[1] *Melanitta nigra*	None	Yes	Winter	O ★	Omnivore (marine invetebrates, bivalves, gastropods, barnacles, shrimp, herring roe, aquatic plant material)
Surf Scoter[1,3] *Melanitta perspicillata*	None	Yes	Winter	O ★	Omnivore (bivalves, gastropods, crustaceans, other invertebrates, fish, plant material)
White-winged Scoter[1] *Melanitta fusca*	None	Yes	Winter	O ★	Omnivore (bivalves and gastropods, crustaceans, other invertebrates, fish, plant material)
Barrow's Goldeneye[7] *Bucephala islandica*	SSC (nest colony)	Yes	Winter		Aquatic invertebrates, mollusks, fish eggs, crustaceans, aquatic insects, fish young
Common Goldeneye[1,4] *Bucephala clangula*	None	Yes	Winter	O ★	Omnivore (crustaceans, mollusks, small fish, insects, seeds, tubers, leaves, stems of aquatic plants)
Bufflehead[1,4] *Bucephala albeola*	HS	Yes	Winter	O, W ★	Omnivore (small inverts, crustaceans, mollusks aquatic insects, gastropods, fish, seeds, parts of aquatic plants. Young: aquatic insects)
Red-breasted Merganser[1,4] *Mergus serrator*	None	Yes	Winter	O ★	Omnivore (fish, crustaceans, amphibians, insects worms)
Ruddy Duck[1,4] *Oxyura jamaicensis*	None	Yes	All year	O ★	Omnivore (seeds, tubers, foliage, stems of submerged aquatic plants, aquatic insects, mollusks, crustaceans, worms)
Greylag Goose[7] *Anser anser*	None	No exotic			
Hooded Merganser[7] *Lophodytes cucullatus*	None	Yes	Winter		Fish, aquatic invertebrates
FAMILY RALLIDAE					
American Coot[1,4] *Fulica americana*	HS	Yes	All year	W, O ★	Omnivore (submerged aquatic plants, seeds, insects, small fish)
FAMILY HAEMATOPODIDAE					
Black Oystercatcher[7] *Haematopus bachmani*	None	Yes	All year	IBW, BW, RR	Carnivore (crustaceans, marine worms, fish)
FAMILY RECURVIROSTRIDAE					
Black-necked Stilt[1,4,5] *Himantopus mexicanus*	None	Yes	All year	W ★	Carnivore (insects, crustaceans, mollusks, other aquatic inverts, small fish)
American Avocet[1,4,5] *Recurvirostra americana*	None	Yes	All year	W ★	Omnivore (aquatic insects, crustaceans, snails, worms, aquatic plant seeds
FAMILY CHARADRIIDAE					
Black Bellied Plover[1,4] *Pluvialis squatarola*	None	Yes	All year	W, B ★	Aquatic invertebrates, insects, crustaceans, marine worms
Western Snowy Plover[1,2] *Charadrius alexandrinus nivosus*	SSC FT (coastal & nest colony)	Yes	All year	H ★	Aquatic invertebrates
Semipalmated Plover[1,4] *Charadrius semipalmatus*	None	Yes	Spring, Fall, Winter	W, B ★	Aquatic invertebrates, insects, crustaceans, marine worms

Table E-3. Birds Occurring in Alameda Point Environs (page 4 of 8)

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
Killdeer[1,4,5] *Charadrius vociferus*	None	Yes	All year	G, W, H, B	Carnivore (invertebrates, insects, beetles, grasshoppers, flies, mosquitoes, weevils, crustaceans, worms, mollusks, seeds)
FAMILY SCOLOPACIDAE					
Willet[1,3,4] *Catoptrophorus semipalmatus*	None	Yes	Winter	RR, B, BW, W ★	Carnivore (invertebrates, small crustaceans, mollusks, polychaete worms, larval and pupal dipteran insects, fish, fish eggs)
Whimbrel[4] *Numenius phaeopus*	None	Yes	Spring and Fall	RR, B, BW, W	Omnivore (crabs, crayfish, marine worms, grasshoppers, beetles, spiders, and berries)
Wandering Tattler[1] *Heteroscelus incanus*	None	Yes	Winter	BW, IBW ★	Carnivore (decapod crustaceans, marine worms, small mollusks)
Spotted Sandpiper[1,4] *Actitis macularia*	None	Yes	Winter	BW, RR, BM ★	Carnivore (flying and benthic insects, beetles, crickets, flies, grasshoppers, worms, ants, other aquatic inverts, small fish)
Long-billed Curlew[1,4] *Numenius americanus*	SSC (nest colony)	Yes	Winter	W ★	Carnivore (mud crabs, ghost and mud shrimp, insect pupae, gem clams, small estuarine fish)
Marbled Godwit[1,4] *Limosa fedoa*	None	Yes	Winter	B, W ★	Carnivore (small snails and clams, sand crabs, amphipods, polychaete worms)
Ruddy Turnstone[1] *Arenaria interpres*	None	Yes	Spring, Fall, Winter	IBW, BW, B ★	Omnivore (crustaceans, worms, mollusks, insects, small fish, vegetative material)
Black Turnstone[1] *Arenaria melanocephala*	None	Yes	Spring, Fall, Winter	IBW ★	Carnivore (small crustaceans and mollusks)
Sanderling[1,3] *Calidris alba*	None	Yes	Summer, Fall, Winter	RR, IBW ★	Carnivore (small crustaceans, sand crabs, amphipods, small mollusks, marine worms, adult and larval flies)
Western Sandpiper[1,3,4] *Calidris mauri*	None	Yes	Summer, Fall, Winter	MW, B, IBW ★	Carnivore (insects, mollusks, crustaceans, worms; Young: adult and larval flies and beetles)
Least Sandpiper[1,4] *Calidris minutilla*	None	Yes	Summer, Fall, Winter	W, B, RR, IBW ★	Omnivore (invertebrates, crustaceans, worms, adult larval insects, seeds, plant material)
Rock Sandpiper[1] *Califris ptilocnemis*	None	Yes	Transient	RR ★	Omnivore (mollusks, crustaceans, flies, beetles, seeds, algae)
Dunlin[1,4] *Calidris alpina*	None	Yes	Winter	W, B, R, IBW ★	Carnivore (mollusks, crustaceans, polychaete worms)
Short-billed Dowitcher[1,4] *Limnodromus griseus*	None	Yes	Winter	B, W ★	Omnivore (small mollusks, crustaceans, marine worms, vegetative material, insects)
Long-billed Dowitcher[1,4] *Limnodromus scolopaceus*	None	Yes	Winter	W ★	Aquatic invertebrates, seeds
Common Snipe[4] *Gallinago gallinago*	None	Yes	Winter	W ★	Carnivore (insects, earthworms, crustaceans, mollusks, occasionally fish)
Wilson's Pharalope[4] *Phalaropus tricolor*	None	Yes	Transient Summer	W	Carnivore (insects and small crustaceans)
Red-necked Phalarope[1,4] *Phalaropus lobatus*	None	Yes	Transient	W, O ★	Carnivore/Omnivore (crustaceans, aquatic insects, mollusks, zooplankton, seeds)
Red Phalarope[1] *Phalaropus fulicaria*	None	Yes	Transient	O ★	Carnivore/Omnivore (aquatic insects, marine, invertebrates, fish, seeds)
Surfbird[7] *Aphriza virlata*	None	Yes	Winter		Aquatic invertebrates

Table E-3. Birds Occurring in Alameda Point Environs (page 5 of 8)

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
FAMILY LARIDAE					
Pomarine Jaeger[1] *Stercorarius pomarinus*	None	Yes	Transient	O ★	Carnivore (fish, offal, carrion)
Parasitic Jaeger[1] *Stercorarius parasiticus*	None	Yes	Transient	O ★	Carnivore (fish, offal)
Bonaparte's Gull[1,4] *Larus philadelphia*	None	Yes	Transient, Winter	O ★	Carnivore (insects, fish, crustaceans, marine worms)
Heermann's Gull[1] *Larus heermanni*	None	Yes	Summer, Fall	O, R, IBW ★	Carnivore (marine fishes, shrimps, mollusks, crustaceans)
Mew Gull[1,4] *Larus canus*	None	Yes	Winter	O, W, B, H ★	Carnivore (mollusks, crustaceans, echinoderms, worms, insect larvae)
Ring-billed Gull[1,3,4] *Larus delawarensis*	None	Yes	All year	B, W, RR, H, O ★	Omnivore (fish, insects, earthworms, crustaceans, garbage, grain, rodents, amphibians, reptiles, carrion)
California Gull[1,3,4,5] *Larus californicus*	SE, CFP (nest colony) FE (nest colony)	Yes	All year	B, W, IBW ★	Carnivore (garbage, carrion, earthworms, adult and larval insects)
Herring Gull[1,4] *Larus argentatus*	None	Yes	Winter	W, O, B, H, RR, IBW ★	Omnivore (small fishes, invertebrates, worms, insect larvae, rats, mice, moles, small rabbits)
Thayer's Gull[1,4] *Larus thayeri*	None	Yes	Winter	W, O, B, H, RR, IBW ★	Carnivore (garbage, marine invertebrates, carrion fish offal, pelagic crabs)
Western Gull[1,3,4,5] *Larus occidentalis*	None	Yes	All year	Uses all habitats IBW, W, RR, BW ★	Omnivore (fish, intertidal invertebrates, small birds and eggs)
Glaucous-winged Gull[1,4] *Larus glaucescens*	None	Yes	Winter	O, W, RR, B, W, IBW ★	Omnivore, (barnacles, mollusks, sea urchins, carrion, and fish)
Black Tern[6] *Chlidonias niger*	SSC	Yes	Spring and Fall		Carnivore (grasshoppers, dragonflies, moths, flies, beetles, and other insects, and larvae, small fish, mollusks, tadpoles, crayfish)
Caspian Tern[1,4,5] *Sterna caspia*	None	Yes	Summer	O, W ★	Piscivore (small fish up to 15cm)
Elegant Tern[1,4] *Sterna elegans*	SSC	Yes	Summer	O ★	Carnivore (fish)
Forster's Tern[1,3,4,5] *Sterna forsteri*	None	Yes	All year	O, W, B ★	Carnivore (small fish, aquatic insects, crustaceans, small amphibians)
Least Tern[1,4,7] *Sterna antillarum browni*	SE (nest colony) FE (nest colony) CFP	Yes	Summer	H, O, B, W ★	Piscivore (small fish, anchovy, silversides, shiner surfperch)
FAMILY ALCIDAE					
Common Murre[1] *Uria aalge*	None	Yes	Transient	O ★	Carnivore (fish, sand lances, herring, rockfish anchovies, crustaceans, cephalopods.
Pigeon Guillemont[7] *Cepphus co*lumba*	None	Yes	All year		
FAMILY CATHARTIDAE					
Turkey Vulture[1,4] *Cathartes aura*	None	Yes	All year	G, H, W ★	Carnivore/Omnivore (carrion, rotting fruit, live birds, eggs, live mammals)

Table E-3. Birds Occurring in Alameda Point Environs (page 6 of 8)

Species (and Reference)	Status	California Native	SF Bay Residency	Habitat/ Presence	Feeding Guild
FAMILY ACCIPITRIDAE					
Osprey[6] *Pandion haliaetus*	SSC	Yes	Winter	G, W, O ★	Carnivore (fish, also mammals, birds, reptiles, amphibians, invertebrates)
Black-Shouldered Kite[6] *Elanus caeruleus*	CFP	Yes	All year	W,G, H ★	Carnivore (voles and other small diurnal mammals, also birds, insects, reptiles, amphibians)
White-tailed Kite[1,4] *Elanus caeruleus*	CFP	Yes	All year	G, W, H ★	Carnivore (voles and other small, diurnal mammals, birds, insects, reptiles, amphibians)
Northern Harrier[1,4] *Circus cyaneus*	SSC	Yes	All year	G, W, H, RR ★	Carnivore (voles, small mammals, birds, frogs, small reptiles, crustaceans, insects)
Sharp-shinned Hawk[4] *Accipiter striatus*	SSC	Yes	All year	G, W, H, RR	Carnivore (small birds, small mammals, insects, reptiles, amphibians)
Cooper's Hawk[4] *Accipiter cooperii*	SSC (nest colony)	Yes	All year	G, W	Carnivore (small birds, small mammals, amphibians, reptiles)
FAMILY FALCONIDAE					
Merlin[1,4] *Falco columbarius*	SSC (wintering)	Yes	Winter	G, H ★	Carnivore (small mammals, birds, shorebirds, insects)
American Peregrine Falcon[1,2,4,7] *Falco peregrinus anatum*	SE, CFP FE, Delisted	Yes	All year	O, G, H ★	Carnivore (small mammals, birds, fish, insects)
American Kestrel [1,4] Falco sparverius	None	Yes	All year	G, H ★	Carnivore (small mammals, birds, insects, earthworms, reptiles, amphibians)
FAMILIES TYTONIDAE and STRIGIDAE					
Great Horned Owl[6] *Bubo virginianus*	None	Yes	All year	G, H, O ★	Carnivore (rabbits, rodents, other med. mammals, also birds, amphibians, reptiles, fish and arthropods)
Barn Owl[1] *Tyto alba*	None	Yes	All year	G, H ★	Carnivore (mice, rats, voles, gophers, squirrels, shrews, insects, crustaceans, reptiles, amphibians, small birds)
Burrowing Owl[1] *Athene cunicularia*	SSC	Yes	All year	G, H ★	Carnivore (insects, small mammals, reptiles, birds, carrion)
FAMILY ALCEDINIDAE					
Belted Kingfisher[1,3,4] *Ceryle alcyon*	None	Yes	All year	W ★	Carnivore (fish, also amphibians, crayfish, insects)
FAMILY LANIDAE					
Loggerhead Shrike[1,4] *Lanius ludovicianus*	SSC	Yes	All year	G, T ★	Carnivore (large insects, also small birds, mammals, reptiles, fish, carrion, other invertebrates)
FAMILY MOTACILLIDAE					
American Pipit[1,4] *Anthus rubescens*	None	Yes	Winter	G, H ★	Omnivore (insects, also mollusks, crustaceans, arthropods, seeds)
FAMILY EMBERIZIDAE					
Alameda Song Sparrow[1,2,4] *Melospiza melodia pusillula*	SSC	Yes	All year	W ★	Omnivore (seeds, insects, spiders, other small invertebrates, mollusks, crustaceans along coast)
California towhee[7] *Pipilo Crissalis*	None	Yes	All year		Seeds, fruit, insects

Table E-3. Birds Occurring in Alameda Point Environs (page 7 of 8)

References for Occurrence

1 L.R. Feeney and L.D. Collins. 1993. This document provides lists of mammal, bird, reptile, and fish species that have been observed at NAS Alameda based on the following sources:

Bailey, S.F., and Collins, L.D. 1983. "Annotated list of waterbirds of the Naval Air Station, Alameda." March.
Bailey, S.F. 1985. "A study of bird use of the breakwater island and breakwater gap area of the Naval Air Station, Alameda."
Christmas Bird Counts conducted by volunteers of Golden Gate Audubon Socieity, 1984, 1985, 1987, 1988, 1990, 1992.
Observations made during foraging and nesting surveys of California Least Terns at ANAS, various observers, for last several years.

2 USFWS. 1993. "Listed and Proposed Endangered and Threatened Species and Candidate Species that may occur in the Area of the Proposed Closure of Naval Air Station, Alameda, Alameda County, California (1-1-94-SP-192, December 31, 1993)". Enclosure attached to letter from Dale A. Pierce, USFWS, to John H. Kennedy, Department of the Navy.

3 Environmental Science Associates, Inc. 1987. The Environmental Impact Statement for the Homeporting of Navy ships at NAS Alameda includes a waterbird survey conducted at NAS Alameda.

4 PRC. 1994. NAS Alameda Ecological Assessment (Draft). February

5 PRC. 1995. Terrestrial EA Field Survey.

6 Morrison, M.L., et al. 1992. Avian Surveys at Naval Air Station Alameda for the Bird-aircraft Strike Hazard (bash) Program. University of California, Berkeley Department of Forestry and Resource Management.

7 ENTRIX. 1997. *Habitat Evaluation, Port of Oakland 50-ft Deepening Project.* Prepared in association with Hartman Consulting Corporation, Merkel & Associates, Inc., Uribe & Associates, and Laurel Marcus & Associates. Project No. 377301. December 17.

Status

Species of special conservation status, as registered in the California Department of Fish and Game's Natural Diversity Data Base, are indicated by the following codes.

SSC	California Department of Fish and Game (CDFG) Species of Special Concern
SE	State of California Endangered Species
SCE	State of California Candidate for Endangered Species
ST	State of California Threatened Species
SCT	State of California Candidate for Threatened Species
CFP	State of California Fully Protected Species
FE	Federal Endangered Species
FT	Federal Threatened Species
FC2	Federal Category 2 Species
HS	Species designated for harvest under California State Fish and Game Code and USFWS regulations.
AB	Species listed on the Audubon Blue List of birds designated by the National Audubon Society as experiencing a population decline.
None	Species has no special status

Native

Yes	Species is native to California.
No	Species is not native to California.

SF Bay Residency

Fall	Species resident during Fall
Winter	Species resident during Winter
Spring	Species resident during Spring
Summer	Species resident during Summer
Transient	Species transient resident
All Year	Species resident all year

Table E-3. Birds Occurring in Alameda Point Environs (page 8 of 8)

Habitat/Presence

O	San Francisco Bay, open waters
W	Wetland areas
G	Grassy areas sometimes with shrubs and small trees
H	Hard surfaces such as tarmac, gravel, pavement
IBW	Island breakwater
BW	Connected breakwater
B	Beach
RR	Rip-rap, most shore edges excluding small beaches
T	Trees near shooting range
P	Pier
★	Observed at Alameda Point (Species not marked with a "★" are expected to occur at NAS Alameda).

Breeding

The habitat used for nesting is underlined in this column. Nesting is indicated only when confirmed.

Feeding Guild

Carnivore	Eats primarily animals.
Insectivore	Eats primarily insects.
Herbivore	Eats primarily plants.
Omnivore	Eats a combination of animals and plants.

References

California Department of Fish and Game (CDFG). 1990. "California's Wildlife, Vol. 2, Birds." November.

USFWS. 1992. "Status and Trends Report on Wildlife of the San Francisco Estuary, San Francisco Estuary Project." January.

USFWS. 1993. "Listed and Proposed Endangered and Threatened Species and Candidate Species that may occur in the Area of the Proposed Closure of Naval Air Station, Alameda, Alameda County, California (1-1-94-SP-192, December 31, 1993)". Enclosure attached to letter from Dale A. Pierce, USFWS, to John H. Kennedy, Department of the Navy.

CDFG. 1994. "Special Animals." August.

CDFG. 1994. "Endangered and Threatened Animals of California." October.

Table E-4. Mammals Occurring in San Francisco Bay and Alameda Point Environs

Species (and reference)	Status	CA Native	SF Bay Residency	Breed	Habitat/ Presence	Feeding Guild
FAMILY OTARIIDAE						
Steller (Northern) Sea Lion[1] *Eumetopias jubatus*	FT (rookery), MMPA	Yes	All year	No	O	Carnivore (fish, rockfish, flatfish, anchovy, and hake, cephalopods, crustaceans, other invertebrates)
California Sea Lion[1] *Zalophus californianus*	MMPA	Yes	All year	No		Carnivore (fish and cephalopods)
FAMILY PHOCIDAE						
Harbor Seal[1] *Phoca vitulina*	MMPA	Yes	All year	No	O, IBW	Carnivore (fish, crustaceans, cephalopods)
FAMILY DELPHINIDA						
Pacific White-sided[1] Dolphin *Lagenorhynchus obliquidens*	MMPA	Yes	Transient		O	Piscivore (*Engraulis, Merluccis, Sardina, Salmo, Cololabis, Trachurus*)
FAMILY PHOCOENIDAE						
Harbor Porpoise[1] *Phocoena phocoena*	MMPA	Yes	Transient		O	Piscivore (*Clupea, Ammodytes, Sprattus, Scomber, Sardina, Micromesistius, Trisopterus, Merluccius, Trachurus, Pollachius, Merlangius*) and squid (Loliginidae, Ommastrephidae)

References for Occurrence

[1]L.R. Feeney and L.D. Collins, 1993. This document provides lists of mammal, bird, reptile, and fish species that have been observed at NAS Alameda based on the following sources:

Bailey, S.F., and Collins, L.D. 1983. "Annotated list of waterbirds of the Naval Air Station, Alameda." March.
Bailey, S.F. 1985. "A study of bird use of the breakwater island and breakwater gap area of the Naval Air Station, Alameda."
Christmas Bird Counts conducted by volunteers of Golden Gate Audubon Society, 1984, 1985, 1987, 1988, 1990, 1992.
Observations made during foraging and nesting surveys of California Least Terns at ANAS, various observers, for last several years.

Status

Species of special conservation status, as registered in the California Department of Fish and Game's Natural Diversity Data Base and 50 CFR Part17, Endangered and Threatened Species, Plant and Animal Taxa; Proposed Rule (Feb. 28, 1996), are indicated by the following codes.

FT Federal Threatened Species
MMPA Protected under the Marine Mammal Protection Act

Native

Yes Species is native to California.
No Species is not native to California.

Table E-4. Mammals Occurring in San Francisco Bay and Alameda Point Environs (page 2 of 2)

SF Bay Residency

All Year	Species resides in area all year.
Transient	Species spends a portion of year in area.

Breed

Yes	Species breeds in area.
No	Species does not breed in area.
Blank	No data was found regarding breeding location at NAS Alameda during this preliminary search.

Primary Exposure

The primary exposure description reflects the primary routes of exposure to contaminants for the species, excluding exposure through ingestion of contaminated prey.

Air	Air
Sed	Sediments
SW	Surface Water (including San Francisco Bay water)

Habitat/Presence

O	San Francisco Bay, open waters
IBW	Island breakwater

Feeding Guild

Carnivore	Eats primarily animals.
Insectivore	Eats primarily insects.
Omnivore	Eats a combination of animals and plants.
Piscivore	Eats primarily fish.

Conservation Status of Species

Status of species was reviewed at the California Department of Fish and Game Habitat Conservation Planning Branch website on September 23, 2002:
http://www.dfg.ca.gov/hcpb/species/search_species.shtml

None of the species listed in the table is listed as a Species of Special Concern according to the May 2002 California Department of Fish and Game (CDFG) Natural Diversity Data Base.

USFWS. 1996 "50 CFR part 17, Endangered and Threatened Species, Plant and Animal Taxa; Proposed Rule." February.

USFWS. 1993. "Listed and Proposed Endangered and Threatened Species and Candidate Species that may occur in the Area of the Proposed Closure of Naval Air Station, Alameda, Alameda County, California (1-1-94-SP-192, December 31, 1993)." Enclosure attached to letter from Dale A. Pierce, USFW, to John H. Kennedy, Department of the Navy.

USFWS. 1992. "Status and Trends Report on Wildlife of the San Francisco Estuary, San Francisco Estuary Project." January.

E.2 SUPPORTING INFORMATION FOR THE EFFECTS ASSESSMENT

As described in the ERA, toxicity reference values (TRVs) were used to evaluate the potential effects associated with the doses calculated in the exposure assessment. TRVs were scaled to account for differences in body weights between the organism used to establish the TRVs (high and low) and the ecological receptor chosen for evaluation. This was accomplished by using the following equation (Sample and Arenal, 1999):

$$TRV_w = TRV_l * (BW_s/BW_r)^{1-1.2} \quad \text{Eq. 6}$$

where:
- TRV_w = weight-adjusted TRV (mg/kg-day)
- TRV_l = literature-based TRV (mg/kg-day)
- BW_s = body weight of toxicity study receptor (kg)
- BW_r = body weight of ecological receptor (kg)

Weight-adjusted TRVs for each ROC (surf scoter, least tern, and double-crested cormorant) are presented in Tables E-5 through E-7.

Reference

Sample, B., and C. Arenal. 1999. "Allometric Models for Interspecies Extrapolation of Wildlife Toxicity Data." *Bull. Environ. Contam. Toxicol., 62*: 653-663.

Table E-5. Weight Adjusted Toxicity Reference Values for the Surf Scoter

Constituent	NOAEL Study Receptor Body Weight (kg)	Literature based Low Avian TRV (mg/kg/day)	Weight-Adusted Low TRV (mg/kg/day)	LOAEL Study Receptor Body Weight (kg)	Literature Based High Avian TRV (mg/kg/day)	Weight-Adusted High TRV (mg/kg/day)
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	1.17E+00	5.50E+00	5.43E+00	1.17E+00	2.20E+01	2.17E+01
Cadmium	7.99E-01	8.00E-02	8.53E-02	8.40E-02	1.04E+01	1.74E+01
Chromium	1.25E+00	2.66E+00	2.59E+00	1.25E+00	1.56E+01	1.52E+01
Copper	6.39E-01	2.30E+00	2.56E+00	4.09E-01	5.23E+01	6.37E+01
Lead	8.40E-02	1.40E-02	2.34E-02	8.00E-01	8.75E+00	9.33E+00
Mercury	1.00E+00	3.90E-02	3.98E-02	1.00E+00	1.80E-01	1.83E-01
Nickel	6.14E-01	1.38E+00	1.55E+00	5.80E-01	5.63E+01	6.40E+01
Selenium	1.11E+00	2.30E-01	2.30E-01	1.11E+00	9.30E-01	9.28E-01
Silver	NA	NA	NA	NA	NA	NA
Zinc	9.55E-01	1.72E+01	1.77E+01	9.55E-01	1.72E+02	1.77E+02
Total PCB	8.00E-01	9.00E-02	9.59E-02	1.72E+00	1.27E+00	1.16E+00
Total 4,4-DDx	3.50E+00	9.00E-03	7.14E-03	1.00E+00	6.00E-01	6.12E-01
Aldrin	NA	NA	NA	NA	NA	NA
alpha-Chlordane	6.40E-02	2.14E+00	3.78E+00	6.40E-02	1.07E-01	1.89E-01
Dieldrin	4.66E-01	7.09E-02	8.42E-02	4.66E-01	8.01E-01	9.51E-01
Endosulfan II	NA	NA	NA	NA	NA	NA
gamma-BHC	1.00E+00	2.00E+00	2.04E+00	1.00E+00	2.00E+01	2.04E+01
gamma-Chlordane	6.40E-02	2.14E+00	3.78E+00	6.40E-02	1.07E+01	1.89E+01
Total PAH (12)	NA	NA	NA	NA	NA	NA
Total LPAH (6)	NA	NA	NA	NA	NA	NA
Total HPAH (6)	NA	NA	NA	NA	NA	NA
Tributyl Tin	9.65E-02	7.30E-01	1.19E+00	9.65E-02	4.59E+01	7.47E+01

Body Weight (kg) = 1.1

Table E-6. Weight Adjusted Toxicity Reference Values for the Least Tern

Constituent	NOAEL Study Receptor Body Weight (kg)	Literature based Low Avian TRV (mg/kg/day)	Weight-Adusted Low TRV (mg/kg/day)	LOAEL Study Receptor Body Weight (kg)	Literature Based High Avian TRV (mg/kg/day)	Weight-Adusted High TRV (mg/kg/day)
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	1.17E+00	5.50E+00	2.87E+00	1.17E+00	2.20E+01	1.15E+01
Cadmium	7.99E-01	8.00E-02	4.50E-02	8.40E-02	1.04E+01	9.18E+00
Chromium	1.25E+00	2.66E+00	1.37E+00	1.25E+00	1.56E+01	8.02E+00
Copper	6.39E-01	2.30E+00	1.35E+00	4.09E-01	5.23E+01	3.36E+01
Lead	8.40E-02	1.40E-02	1.24E-02	8.00E-01	8.75E+00	4.92E+00
Mercury	1.00E+00	3.90E-02	2.10E-02	1.00E+00	1.80E-01	9.68E-02
Nickel	6.14E-01	1.38E+00	8.18E-01	5.80E-01	5.63E+01	3.38E+01
Selenium	1.11E+00	2.30E-01	1.21E-01	1.11E+00	9.30E-01	4.90E-01
Silver	NA	NA	NA	NA	NA	NA
Zinc	9.55E-01	1.72E+01	9.34E+00	9.55E-01	1.72E+02	9.34E+01
Total PCB	8.00E-01	9.00E-02	5.06E-02	1.72E+00	1.27E+00	6.13E-01
Total 4,4-DDx	3.50E+00	9.00E-03	3.77E-03	1.00E+00	6.00E-01	3.23E-01
Aldrin	NA	NA	NA	NA	NA	NA
alpha-Chlordane	6.40E-02	2.14E+00	1.99E+00	6.40E-02	1.07E-01	9.97E-02
Dieldrin	4.66E-01	7.09E-02	4.44E-02	4.66E-01	8.01E-01	5.02E-01
Endosulfan II	NA	NA	NA	NA	NA	NA
gamma-BHC	1.00E+00	2.00E+00	1.08E+00	1.00E+00	2.00E+01	1.08E+01
gamma-Chlordane	6.40E-02	2.14E+00	1.99E+00	6.40E-02	1.07E+01	9.97E+00
Total PAH (12)	NA	NA	NA	NA	NA	NA
Total LPAH (6)	NA	NA	NA	NA	NA	NA
Total HPAH (6)	NA	NA	NA	NA	NA	NA
Tributyl Tin	9.65E-02	7.30E-01	6.27E-01	9.65E-02	4.59E+01	3.94E+01

Body Weight (kg) = 0.045

Table E-7. Weight Adjusted Toxicity Reference Value for Double-Crested Cormorant

Constituent	NOAEL Study Receptor Body Weight (kg)	Literature based Low Avian TRV (mg/kg/day)	Weight-Adusted Low TRV (mg/kg/day)	LOAEL Study Receptor Body Weight (kg)	Literature Based High Avian TRV (mg/kg/day)	Weight-Adusted High TRV (mg/kg/day)
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	1.17E+00	5.50E+00	5.91E+00	1.17E+00	2.20E+01	2.36E+01
Cadmium	7.99E-01	8.00E-02	9.27E-02	8.40E-02	1.04E+01	1.89E+01
Chromium	1.25E+00	2.66E+00	2.82E+00	1.25E+00	1.56E+01	1.65E+01
Copper	6.39E-01	2.30E+00	2.79E+00	4.09E-01	5.23E+01	6.93E+01
Lead	8.40E-02	1.40E-02	2.55E-02	8.00E-01	8.75E+00	1.01E+01
Mercury	1.00E+00	3.90E-02	4.32E-02	1.00E+00	1.80E-01	1.99E-01
Nickel	6.14E-01	1.38E+00	1.69E+00	5.80E-01	5.63E+01	6.96E+01
Selenium	1.11E+00	2.30E-01	2.50E-01	1.11E+00	9.30E-01	1.01E+00
Silver	NA	NA	NA	NA	NA	NA
Zinc	9.55E-01	1.72E+01	1.92E+01	9.55E-01	1.72E+02	1.92E+02
Total PCB	8.00E-01	9.00E-02	1.04E-01	1.72E+00	1.27E+00	1.26E+00
Total 4,4-DDx	3.50E+00	9.00E-03	7.76E-03	1.00E+00	6.00E-01	6.65E-01
Aldrin	NA	NA	NA	NA	NA	NA
alpha-Chlordane	6.40E-02	2.14E+00	4.11E+00	6.40E-02	1.07E-01	2.05E-01
Dieldrin	4.66E-01	7.09E-02	9.15E-02	4.66E-01	8.01E-01	1.03E+00
Endosulfan II	NA	NA	NA	NA	NA	NA
gamma-BHC	1.00E+00	2.00E+00	2.22E+00	1.00E+00	2.00E+01	2.22E+01
gamma-Chlordane	6.40E-02	2.14E+00	4.11E+00	6.40E-02	1.07E+01	2.05E+01
Total PAH (12)	NA	NA	NA	NA	NA	NA
Total LPAH (6)	NA	NA	NA	NA	NA	NA
Total HPAH (6)	NA	NA	NA	NA	NA	NA
Tributyl Tin	9.65E-02	7.30E-01	1.29E+00	9.65E-02	4.59E+01	8.12E+01

Body Weight (kg) = 1.67

E.3 SUPPORTING INFORMATION FOR THE FOOD CHAIN SCREENING LEVEL RISK ESTIMATE

A screening-level risk estimate for indirect exposure through the food chain was developed by comparing the modeled dose based on maximum sediment exposure to the low TRV. Three receptors were evaluated (the scoter, double-crested cormorant and the California least tern) for all three datasets (All Years, 2005 Surface and 2005 Subsurface) at Western Bayside and for the All Years data set for Breakwater Beach. Tables E-8 through E-16 present the supporting tables and results of the screening-level risk estimate for the three avian receptors and three sediment datasets at Western Bayside. Tables E-17 through E-19 present the results and supporting tables of the screening-level risk estimate for the three avian receptors and three sediment datasets at Breakwater Beach.

Table E-8. Screening Level Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	3.93E+01	7.76E+00		7.03E-01	NA	NA	NA	NA
Arsenic	1.23E+01	2.70E+01		2.19E+00	5.43E+00	4.02E-01	2.17E+01	1.01E-01
Cadmium	3.06E-01	3.73E-02		3.62E-03	8.53E-02	4.25E-02	1.74E+01	2.08E-04
Chromium	1.58E+02	3.02E+01		2.74E+00	2.59E+00	1.06E+00	1.52E+01	1.81E-01
Copper	4.77E+01	1.50E+01		1.30E+00	2.56E+00	5.07E-01	6.37E+01	2.04E-02
Lead	3.08E+01	4.06E+00		3.89E-01	2.34E-02	1.66E+01	9.33E+00	4.17E-02
Mercury	8.47E-01	2.32E-01		2.03E-02	3.98E-02	5.11E-01	1.83E-01	1.11E-01
Nickel	9.00E+01	6.82E+00		7.34E-01	1.55E+00	4.73E-01	6.40E+01	1.15E-02
Selenium	4.60E-01	1.76E+00		1.42E-01	2.30E-01	6.16E-01	9.28E-01	1.52E-01
Silver	1.17E+00	2.00E-01		1.85E-02	NA	NA	NA	NA
Zinc	1.30E+02	1.13E+02		9.33E+00	1.77E+01	5.27E-01	1.77E+02	5.27E-02
Total PCB	1.45E-01	2.03E-04		3.18E-04	9.59E-02	3.32E-03	1.16E+00	2.74E-04
Total 4,4-DDx	2.09E-02	2.96E-02		2.41E-03	7.14E-03	3.38E-01	6.12E-01	3.94E-03
Aldrin	6.75E-03	6.32E-05		1.92E-05	NA	NA	NA	NA
alpha-BHC	5.23E-02	NA		NA	NA	NA	NA	NA
alpha-Chlordane	3.15E-03	2.06E-06		6.75E-06	3.78E+00	1.79E-06	1.89E-01	3.57E-05
Dieldrin	1.19E-02	7.77E-05		3.11E-05	8.42E-02	3.70E-04	9.51E-01	3.27E-05
Endosulfan II	6.00E-03	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	6.34E-02	NA		NA	NA	NA	NA	NA
gamma-BHC	4.30E-02	2.45E-04		1.10E-04	2.04E+00	5.38E-05	2.04E+01	5.38E-06
gamma-Chlordane	3.15E-03	NA		NA	3.78E+00	NA	1.89E+01	NA
Heptachlor	6.75E-03	2.60E-05		1.62E-05	NA	NA	NA	NA
Heptachlor Epoxide	3.15E-03	1.07E-05		7.44E-06	NA	NA	NA	NA
Total PAH (12)	2.96E+00	NA		NA	NA	NA	NA	NA
Total LPAH (6)	7.50E-01	2.68E-04		1.59E-03	NA	NA	NA	NA
Total HPAH (6)	2.53E+00	2.95E-03		5.52E-03	NA	NA	NA	NA
Tributyl Tin	1.70E-02	1.51E-05		3.68E-05	1.19E+00	3.09E-05	7.47E+01	4.92E-07

Highlighted cells = HQ > 1

Table E-9. Screening Level Dose and Hazard Quotients for the Least Tern for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	3.93E+01		3.19E-01	7.79E-02	NA	NA	NA	NA
Arsenic	1.23E+01		1.57E+00	3.84E-01	2.87E+00	1.34E-01	1.15E+01	3.35E-02
Cadmium	3.06E-01		8.38E-03	2.05E-03	4.50E-02	4.55E-02	9.18E+00	2.23E-04
Chromium	1.58E+02		2.43E+00	5.93E-01	1.37E+00	4.33E-01	8.02E+00	7.39E-02
Copper	4.77E+01		3.85E+00	9.40E-01	1.35E+00	6.95E-01	3.36E+01	2.80E-02
Lead	3.08E+01		5.33E-01	1.30E-01	1.24E-02	1.05E+01	4.92E+00	2.65E-02
Mercury	8.47E-01		2.14E-01	5.23E-02	2.10E-02	2.49E+00	9.68E-02	5.40E-01
Nickel	9.00E+01		4.68E-01	1.14E-01	8.18E-01	1.40E-01	3.38E+01	3.39E-03
Selenium	4.60E-01		8.08E-01	1.98E-01	1.21E-01	1.63E+00	4.90E-01	4.03E-01
Silver	1.17E+00		3.70E-02	9.04E-03	NA	NA	NA	NA
Zinc	1.30E+02		4.46E+01	1.09E+01	9.34E+00	1.17E+00	9.34E+01	1.17E-01
Total PCB	1.45E-01		4.51E-01	1.10E-01	5.06E-02	2.18E+00	6.13E-01	1.80E-01
Total 4,4-DDx	2.09E-02		9.53E-02	2.33E-02	3.77E-03	6.18E+00	3.23E-01	7.22E-02
Aldrin	6.75E-03		4.05E-04	9.90E-05	NA	NA	NA	NA
alpha-BHC	5.23E-02		2.65E-03	6.47E-04	NA	NA	NA	NA
alpha-Chlordane	3.15E-03		7.50E-03	1.83E-03	1.99E+00	9.19E-04	9.97E-02	1.84E-02
Dieldrin	1.19E-02		1.76E-02	4.31E-03	4.44E-02	9.71E-02	5.02E-01	8.59E-03
Endosulfan II	6.00E-03		3.65E-04	8.93E-05	NA	NA	NA	NA
Endrin Aldehyde	6.34E-02		1.71E-03	4.18E-04	NA	NA	NA	NA
gamma-BHC	4.30E-02		3.23E-03	7.90E-04	1.08E+00	7.34E-04	1.08E+01	7.34E-05
gamma-Chlordane	3.15E-03		2.51E-04	6.13E-05	1.99E+00	3.07E-05	9.97E+00	6.15E-06
Heptachlor	6.75E-03		3.18E-04	7.77E-05	NA	NA	NA	NA
Heptachlor Epoxide	3.15E-03		1.74E-04	4.26E-05	NA	NA	NA	NA
Total PAH (12)	2.96E+00		6.45E-02	1.58E-02	NA	NA	NA	NA
Total LPAH (6)	7.50E-01		5.95E-02	1.45E-02	NA	NA	NA	NA
Total HPAH (6)	2.53E+00		5.50E-02	1.35E-02	NA	NA	NA	NA
Tributyl Tin	1.70E-02		1.46E-01	3.57E-02	6.27E-01	5.69E-02	3.94E+01	9.05E-04

Highlighted cells = HQ > 1

Table E-10. Screening Level Dose and Hazard Quotient for the Double-Crested Cormorant for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	3.93E+01		3.19E-01	5.98E-02	NA	NA	NA	NA
Arsenic	1.23E+01		1.57E+00	9.90E-02	5.91E+00	1.68E-02	2.36E+01	4.19E-03
Cadmium	3.06E-01		8.38E-03	7.87E-04	9.27E-02	8.49E-03	1.89E+01	4.16E-05
Chromium	1.58E+02		2.43E+00	3.02E-01	2.82E+00	1.07E-01	1.65E+01	1.83E-02
Copper	4.77E+01		3.85E+00	2.61E-01	2.79E+00	9.36E-02	6.93E+01	3.77E-03
Lead	3.08E+01		5.33E-01	6.22E-02	2.55E-02	2.44E+00	1.01E+01	6.14E-03
Mercury	8.47E-01		2.14E-01	1.26E-02	4.32E-02	2.91E-01	1.99E-01	6.31E-02
Nickel	9.00E+01		4.68E-01	1.23E-01	1.69E+00	7.27E-02	6.96E+01	1.76E-03
Selenium	4.60E-01		8.08E-01	4.45E-02	2.50E-01	1.78E-01	1.01E+00	4.41E-02
Silver	1.17E+00		3.70E-02	3.28E-03	NA	NA	NA	NA
Zinc	1.30E+02		4.46E+01	2.57E+00	1.92E+01	1.34E-01	1.92E+02	1.34E-02
Total PCB	1.45E-01		4.51E-01	2.47E-02	1.04E-01	2.37E-01	1.26E+00	1.96E-02
Total 4,4-DDx	2.09E-02		9.53E-02	5.21E-03	7.76E-03	6.72E-01	6.65E-01	7.84E-03
Aldrin	6.75E-03		4.05E-04	2.93E-05	NA	NA	NA	NA
alpha-BHC	5.23E-02		2.65E-03	2.01E-04	NA	NA	NA	NA
alpha-Chlordane	3.15E-03		7.50E-03	4.12E-04	4.11E+00	1.00E-04	2.05E-01	2.01E-03
Dieldrin	1.19E-02		1.76E-02	9.74E-04	9.15E-02	1.06E-02	1.03E+00	9.42E-04
Endosulfan II	6.00E-03		3.65E-04	2.64E-05	NA	NA	NA	NA
Endrin Aldehyde	6.34E-02		1.71E-03	1.61E-04	NA	NA	NA	NA
gamma-BHC	4.30E-02		3.23E-03	2.22E-04	2.22E+00	1.00E-04	2.22E+01	1.00E-05
gamma-Chlordane	3.15E-03		2.51E-04	1.71E-05	4.11E+00	4.15E-06	2.05E+01	8.30E-07
Heptachlor	6.75E-03		3.18E-04	2.46E-05	NA	NA	NA	NA
Heptachlor Epoxide	3.15E-03		1.74E-04	1.29E-05	NA	NA	NA	NA
Total PAH (12)	2.96E+00		6.45E-02	6.70E-03	NA	NA	NA	NA
Total LPAH (6)	7.50E-01		5.95E-02	4.05E-03	NA	NA	NA	NA
Total HPAH (6)	2.53E+00		5.50E-02	5.72E-03	NA	NA	NA	NA
Tributyl Tin	1.70E-02		1.46E-01	7.97E-03	1.29E+00	6.17E-03	8.12E+01	9.81E-05

Highlighted cells = HQ > 1

Table E-11. Screening Level Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	3.10E-01	6.12E-02		5.54E-03	NA	NA	NA	NA
Arsenic	5.85E+00	2.70E+01		2.17E+00	5.43E+00	4.00E-01	2.17E+01	1.00E-01
Cadmium	3.06E-01	3.73E-02		3.62E-03	8.53E-02	4.25E-02	1.74E+01	2.08E-04
Chromium	8.98E+01	1.72E+01		1.56E+00	2.59E+00	6.04E-01	1.52E+01	1.03E-01
Copper	3.23E+01	1.50E+01		1.27E+00	2.56E+00	4.94E-01	6.37E+01	1.99E-02
Lead	3.08E+01	4.06E+00		3.89E-01	2.34E-02	1.66E+01	9.33E+00	4.17E-02
Mercury	3.66E-01	2.32E-01		1.93E-02	3.98E-02	4.86E-01	1.83E-01	1.05E-01
Nickel	5.58E+01	6.82E+00		6.62E-01	1.55E+00	4.27E-01	6.40E+01	1.03E-02
Silver	1.17E+00	2.00E-01		1.85E-02	NA	NA	NA	NA
Zinc	8.04E+01	1.13E+02		9.22E+00	1.77E+01	5.21E-01	1.77E+02	5.21E-02
Total PCB	4.53E-02	6.37E-05		9.97E-05	9.59E-02	1.04E-03	1.16E+00	8.59E-05
Total 4,4-DDx	1.28E-02	2.96E-02		2.39E-03	7.14E-03	3.35E-01	6.12E-01	3.92E-03
Aldrin	3.10E-04	2.90E-06		8.80E-07	NA	NA	NA	NA
alpha-BHC	4.00E-04	NA		NA	NA	NA	NA	NA
alpha-Chlordane	1.42E-03	9.30E-07		3.04E-06	3.78E+00	8.05E-07	1.89E-01	1.61E-05
Dieldrin	1.13E-03	7.36E-06		2.95E-06	8.42E-02	3.51E-05	9.51E-01	3.10E-06
Endosulfan II	4.30E-04	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	1.49E-03	NA		NA	NA	NA	NA	NA
gamma-BHC	4.90E-04	2.80E-06		1.25E-06	2.04E+00	6.12E-07	2.04E+01	6.12E-08
gamma-Chlordane	1.66E-03	NA		NA	3.78E+00	NA	1.89E+01	NA
Heptachlor	2.20E-04	8.48E-07		5.28E-07	NA	NA	NA	NA
Heptachlor Epoxide	3.00E-04	1.02E-06		7.09E-07	NA	NA	NA	NA
Total PAH (12)	2.96E+00	NA		NA	NA	NA	NA	NA
Total LPAH (6)	4.32E-01	1.55E-04		9.16E-04	NA	NA	NA	NA
Total HPAH (6)	2.53E+00	2.95E-03		5.52E-03	NA	NA	NA	NA
Tributyl Tin	3.00E-03	2.66E-06		6.49E-06	1.19E+00	5.46E-06	7.47E+01	8.69E-08

Highlighted cells = HQ > 1

Table E-12. Screening Level Dose and Hazard Quotients for the Least Tern for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF			
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00			
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit			
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**	
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless	
Antimony	3.10E-01		2.51E-03	6.14E-04	NA	NA	NA	NA	
Arsenic	5.85E+00		7.46E-01	1.82E-01	2.87E+00	6.36E-02	1.15E+01	1.59E-02	
Cadmium	3.06E-01		8.38E-03	2.05E-03	4.50E-02	4.55E-02	9.18E+00	2.23E-04	
Chromium	8.98E+01		1.38E+00	3.38E-01	1.37E+00	2.47E-01	8.02E+00	4.21E-02	
Copper	3.23E+01		2.61E+00	6.37E-01	1.35E+00	4.71E-01	3.36E+01	1.89E-02	
Lead	3.08E+01		5.33E-01	1.30E-01	1.24E-02	1.05E+01	4.92E+00	2.65E-02	
Mercury	3.66E-01		9.25E-02	2.26E-02	2.10E-02	1.08E+00	9.68E-02	2.34E-01	
Nickel	5.58E+01		2.90E-01	7.09E-02	8.18E-01	8.67E-02	3.38E+01	2.10E-03	
Silver	1.17E+00		3.70E-02	9.04E-03	NA	NA	NA	NA	
Zinc	8.04E+01		2.76E+01	6.74E+00	9.34E+00	7.22E-01	9.34E+01	7.22E-02	
Total PCB	4.53E-02		1.41E-01	3.45E-02	5.06E-02	6.82E-01	6.13E-01	5.63E-02	
Total 4,4-DDx	1.28E-02		5.82E-02	1.42E-02	3.77E-03	3.78E+00	3.23E-01	4.41E-02	
Aldrin	3.10E-04		1.86E-05	4.55E-06	NA	NA	NA	NA	
alpha-BHC	4.00E-04		2.02E-05	4.95E-06	NA	NA	NA	NA	
alpha-Chlordane	1.42E-03		3.38E-03	8.26E-04	1.99E+00	4.14E-04	9.97E-02	8.28E-03	
Dieldrin	1.13E-03		1.67E-03	4.09E-04	4.44E-02	9.20E-03	5.02E-01	8.15E-04	
Endosulfan II	4.30E-04		2.62E-05	6.40E-06	NA	NA	NA	NA	
Endrin Aldehyde	1.49E-03		4.02E-05	9.83E-06	NA	NA	NA	NA	
gamma-BHC	4.90E-04		3.68E-05	9.00E-06	1.08E+00	8.36E-06	1.08E+01	8.36E-07	
gamma-Chlordane	1.66E-03		1.32E-04	3.23E-05	1.99E+00	1.62E-05	9.97E+00	3.24E-06	
Heptachlor	2.20E-04		1.04E-05	2.53E-06	NA	NA	NA	NA	
Heptachlor Epoxide	3.00E-04		1.66E-05	4.06E-06	NA	NA	NA	NA	
Total PAH (12)	2.96E+00		6.45E-02	1.58E-02	NA	NA	NA	NA	
Total LPAH (6)	4.32E-01		3.43E-02	8.37E-03	NA	NA	NA	NA	
Total HPAH (6)	2.53E+00		5.50E-02	1.35E-02	NA	NA	NA	NA	
Tributyl Tin	3.00E-03		2.57E-02	6.29E-03	6.27E-01	1.00E-02	3.94E+01	1.60E-04	

Highlighted cells = HQ > 1

Table E-13. Screening Level Dose and Hazard Quotient for the Double-Crested Cormorant for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	3.10E-01		2.51E-03	4.71E-04	NA	NA	NA	NA
Arsenic	5.85E+00		7.46E-01	4.69E-02	5.91E+00	7.95E-03	2.36E+01	1.99E-03
Cadmium	3.06E-01		8.38E-03	7.87E-04	9.27E-02	8.49E-03	1.89E+01	4.16E-05
Chromium	8.98E+01		1.38E+00	1.72E-01	2.82E+00	6.11E-02	1.65E+01	1.04E-02
Copper	3.23E+01		2.61E+00	1.77E-01	2.79E+00	6.35E-02	6.93E+01	2.55E-03
Lead	3.08E+01		5.33E-01	6.22E-02	2.55E-02	2.44E+00	1.01E+01	6.14E-03
Mercury	3.66E-01		9.25E-02	5.44E-03	4.32E-02	1.26E-01	1.99E-01	2.73E-02
Nickel	5.58E+01		2.90E-01	7.60E-02	1.69E+00	4.51E-02	6.96E+01	1.09E-03
Silver	1.17E+00		3.70E-02	3.28E-03	NA	NA	NA	NA
Zinc	8.04E+01		2.76E+01	1.59E+00	1.92E+01	8.26E-02	1.92E+02	8.26E-03
Total PCB	4.53E-02		1.41E-01	7.74E-03	1.04E-01	7.43E-02	1.26E+00	6.13E-03
Total 4,4-DDx	1.28E-02		5.82E-02	3.18E-03	7.76E-03	4.10E-01	6.65E-01	4.79E-03
Aldrin	3.10E-04		1.86E-05	1.35E-06	NA	NA	NA	NA
alpha-BHC	4.00E-04		2.02E-05	1.53E-06	NA	NA	NA	NA
alpha-Chlordane	1.42E-03		3.38E-03	1.86E-04	4.11E+00	4.52E-05	2.05E-01	9.04E-04
Dieldrin	1.13E-03		1.67E-03	9.23E-05	9.15E-02	1.01E-03	1.03E+00	8.93E-05
Endosulfan II	4.30E-04		2.62E-05	1.89E-06	NA	NA	NA	NA
Endrin Aldehyde	1.49E-03		4.02E-05	3.80E-06	NA	NA	NA	NA
gamma-BHC	4.90E-04		3.68E-05	2.53E-06	2.22E+00	1.14E-06	2.22E+01	1.14E-07
gamma-Chlordane	1.66E-03		1.32E-04	8.99E-06	4.11E+00	2.19E-06	2.05E+01	4.38E-07
Heptachlor	2.20E-04		1.04E-05	8.02E-07	NA	NA	NA	NA
Heptachlor Epoxide	3.00E-04		1.66E-05	1.23E-06	NA	NA	NA	NA
Total PAH (12)	2.96E+00		6.45E-02	6.70E-03	NA	NA	NA	NA
Total LPAH (6)	4.32E-01		3.43E-02	2.33E-03	NA	NA	NA	NA
Total HPAH (6)	2.53E+00		5.50E-02	5.72E-03	NA	NA	NA	NA
Tributyl Tin	3.00E-03		2.57E-02	1.41E-03	1.29E+00	1.09E-03	8.12E+01	1.73E-05

Highlighted cells = HQ > 1

Table E-14. Screening Level Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	2.90E-01	5.72E-02		5.19E-03	NA	NA	NA	NA
Arsenic	6.62E+00	2.70E+01		2.17E+00	5.43E+00	4.00E-01	2.17E+01	1.00E-01
Cadmium	9.52E-01	1.16E-01		1.13E-02	8.53E-02	1.32E-01	1.74E+01	6.48E-04
Chromium	8.88E+01	1.70E+01		1.55E+00	2.59E+00	5.97E-01	1.52E+01	1.02E-01
Copper	3.61E+01	1.50E+01		1.28E+00	2.56E+00	4.97E-01	6.37E+01	2.00E-02
Lead	3.22E+01	4.06E+00		3.92E-01	2.34E-02	1.67E+01	9.33E+00	4.20E-02
Mercury	4.99E-01	2.32E-01		1.96E-02	3.98E-02	4.93E-01	1.83E-01	1.07E-01
Nickel	6.56E+01	6.82E+00		6.83E-01	1.55E+00	4.40E-01	6.40E+01	1.07E-02
Silver	4.41E-01	7.55E-02		6.97E-03	NA	NA	NA	NA
Zinc	8.55E+01	1.13E+02		9.23E+00	1.77E+01	5.22E-01	1.77E+02	5.22E-02
Total PCB	7.12E-02	1.00E-04		1.57E-04	9.59E-02	1.64E-03	1.16E+00	1.35E-04
Total 4,4-DDx	5.60E-03	2.96E-02		2.38E-03	7.14E-03	3.33E-01	6.12E-01	3.89E-03
alpha-Chlordane	4.80E-04	3.14E-07		1.03E-06	3.78E+00	2.72E-07	1.89E-01	5.44E-06
Dieldrin	7.20E-04	4.69E-06		1.88E-06	8.42E-02	2.23E-05	9.51E-01	1.98E-06
Endosulfan II	4.00E-04	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	8.20E-04	NA		NA	NA	NA	NA	NA
gamma-Chlordane	6.30E-04	NA		NA	3.78E+00	NA	1.89E+01	NA
Total PAH (12)	2.57E+02	NA		NA	NA	NA	NA	NA
Total LPAH (6)	3.51E+01	1.25E-02		7.43E-02	NA	NA	NA	NA
Total HPAH (6)	2.22E+02	2.59E-01		4.85E-01	NA	NA	NA	NA
Tributyl Tin	4.00E-03	3.55E-06		8.65E-06	1.19E+00	7.28E-06	7.47E+01	1.16E-07

Highlighted cells = HQ > 1

Table E-15. Screening Level Dose and Hazard Quotients for the Least Tern for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	2.90E-01		2.35E-03	5.74E-04	NA	NA	NA	NA
Arsenic	6.62E+00		8.44E-01	2.06E-01	2.87E+00	7.20E-02	1.15E+01	1.80E-02
Cadmium	9.52E-01		2.61E-02	6.38E-03	4.50E-02	1.42E-01	9.18E+00	6.95E-04
Chromium	8.88E+01		1.37E+00	3.34E-01	1.37E+00	2.44E-01	8.02E+00	4.17E-02
Copper	3.61E+01		2.91E+00	7.12E-01	1.35E+00	5.26E-01	3.36E+01	2.12E-02
Lead	3.22E+01		5.57E-01	1.36E-01	1.24E-02	1.10E+01	4.92E+00	2.77E-02
Mercury	4.99E-01		1.26E-01	3.08E-02	2.10E-02	1.47E+00	9.68E-02	3.19E-01
Nickel	6.56E+01		3.41E-01	8.34E-02	8.18E-01	1.02E-01	3.38E+01	2.47E-03
Silver	4.41E-01		1.39E-02	3.41E-03	NA	NA	NA	NA
Zinc	8.55E+01		2.93E+01	7.17E+00	9.34E+00	7.68E-01	9.34E+01	7.68E-02
Total PCB	7.12E-02		2.22E-01	5.43E-02	5.06E-02	1.07E+00	6.13E-01	8.86E-02
Total 4,4-DDx	5.60E-03		2.55E-02	6.23E-03	3.77E-03	1.65E+00	3.23E-01	1.93E-02
alpha-Chlordane	4.80E-04		1.14E-03	2.79E-04	1.99E+00	1.40E-04	9.97E-02	2.80E-03
Dieldrin	7.20E-04		1.07E-03	2.60E-04	4.44E-02	5.86E-03	5.02E-01	5.19E-04
Endosulfan II	4.00E-04		2.44E-05	5.95E-06	NA	NA	NA	NA
Endrin Aldehyde	8.20E-04		2.21E-05	5.41E-06	NA	NA	NA	NA
gamma-Chlordane	6.30E-04		5.01E-05	1.23E-05	1.99E+00	6.15E-06	9.97E+00	1.23E-06
Total PAH (12)	2.57E+02		5.60E+00	1.37E+00	NA	NA	NA	NA
Total LPAH (6)	3.51E+01		2.78E+00	6.80E-01	NA	NA	NA	NA
Total HPAH (6)	2.22E+02		4.84E+00	1.18E+00	NA	NA	NA	NA
Tributyl Tin	4.00E-03		3.43E-02	8.39E-03	6.27E-01	1.34E-02	3.94E+01	2.13E-04

Highlighted cells = HQ > 1

Table E-16. Screening Level Dose and Hazard Quotient for the Double-Crested Cormorant for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	2.90E-01		2.35E-03	4.41E-04	NA	NA	NA	NA
Arsenic	6.62E+00		8.44E-01	5.31E-02	5.91E+00	9.00E-03	2.36E+01	2.25E-03
Cadmium	9.52E-01		2.61E-02	2.45E-03	9.27E-02	2.64E-02	1.89E+01	1.29E-04
Chromium	8.88E+01		1.37E+00	1.70E-01	2.82E+00	6.04E-02	1.65E+01	1.03E-02
Copper	3.61E+01		2.91E+00	1.98E-01	2.79E+00	7.09E-02	6.93E+01	2.85E-03
Lead	3.22E+01		5.57E-01	6.51E-02	2.55E-02	2.56E+00	1.01E+01	6.42E-03
Mercury	4.99E-01		1.26E-01	7.41E-03	4.32E-02	1.72E-01	1.99E-01	3.72E-02
Nickel	6.56E+01		3.41E-01	8.93E-02	1.69E+00	5.30E-02	6.96E+01	1.28E-03
Silver	4.41E-01		1.39E-02	1.23E-03	NA	NA	NA	NA
Zinc	8.55E+01		2.93E+01	1.69E+00	1.92E+01	8.79E-02	1.92E+02	8.79E-03
Total PCB	7.12E-02		2.22E-01	1.22E-02	1.04E-01	1.17E-01	1.26E+00	9.65E-03
Total 4,4-DDx	5.60E-03		2.55E-02	1.39E-03	7.76E-03	1.80E-01	6.65E-01	2.10E-03
alpha-Chlordane	4.80E-04		1.14E-03	6.28E-05	4.11E+00	1.53E-05	2.05E-01	3.06E-04
Dieldrin	7.20E-04		1.07E-03	5.88E-05	9.15E-02	6.43E-04	1.03E+00	5.69E-05
Endosulfan II	4.00E-04		2.44E-05	1.76E-06	NA	NA	NA	NA
Endrin Aldehyde	8.20E-04		2.21E-05	2.09E-06	NA	NA	NA	NA
gamma-Chlordane	6.30E-04		5.01E-05	3.41E-06	4.11E+00	8.30E-07	2.05E+01	1.66E-07
Total PAH (12)	2.57E+02		5.60E+00	5.83E-01	NA	NA	NA	NA
Total LPAH (6)	3.51E+01		2.78E+00	1.89E-01	NA	NA	NA	NA
Total HPAH (6)	2.22E+02		4.84E+00	5.03E-01	NA	NA	NA	NA
Tributyl Tin	4.00E-03		3.43E-02	1.87E-03	1.29E+00	1.45E-03	8.12E+01	2.31E-05

Highlighted cells = HQ > 1

Table E-17. Screening Level Dose and Hazard Quotient Results for the Surf Scoter for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	1.80E+00	5.60E-02		8.24E-03	NA	NA	NA	NA
Arsenic	1.19E+01	2.55E+01		2.06E+00	5.43E+00	3.80E-01	2.17E+01	9.49E-02
Cadmium	4.56E-01	2.66E-01		2.22E-02	8.53E-02	2.61E-01	1.74E+01	1.28E-03
Chromium	1.53E+02	6.80E+01		5.76E+00	2.59E+00	2.22E+00	1.52E+01	3.79E-01
Copper	7.72E+01	1.75E+01		1.56E+00	2.56E+00	6.10E-01	6.37E+01	2.45E-02
Lead	4.89E+01	2.08E+00		2.68E-01	2.34E-02	1.15E+01	9.33E+00	2.88E-02
Mercury	6.60E-01	1.90E-01		1.66E-02	3.98E-02	4.17E-01	1.83E-01	9.04E-02
Nickel	9.90E+01	4.34E+01		3.68E+00	1.55E+00	2.37E+00	6.40E+01	5.75E-02
Selenium	1.15E+00	4.00E+00		3.22E-01	2.30E-01	1.40E+00	9.28E-01	3.47E-01
Silver	2.50E+00	2.90E-01		2.84E-02	NA	NA	NA	NA
Zinc	2.10E+02	1.11E+02		9.32E+00	1.77E+01	5.27E-01	1.77E+02	5.27E-02
Total PCB	1.04E+00	2.37E-01		2.11E-02	9.59E-02	2.20E-01	1.16E+00	1.82E-02
Total 4,4-DDx	3.90E-02	1.55E-02		1.32E-03	7.14E-03	1.85E-01	6.12E-01	2.16E-03
Aldrin	6.50E-03	6.08E-02		4.88E-03	NA	NA	NA	NA
alpha-Chlordane	6.50E-03	1.10E-03		1.02E-04	3.78E+00	2.69E-05	1.89E-01	5.38E-04
Dieldrin	1.30E-02	2.00E-03		1.87E-04	8.42E-02	2.22E-03	9.51E-01	1.97E-04
Endosulfan II	1.30E-02	NA		NA	NA	NA	NA	NA
gamma-BHC	6.50E-03	1.50E-03		1.34E-04	2.04E+00	6.55E-05	2.04E+01	6.55E-06
gamma-Chlordane	6.50E-03	NA		NA	3.78E+00	NA	1.89E+01	NA
Total PAH (12)	6.94E+00	3.08E+00		2.61E-01	NA	NA	NA	NA
Total LPAH (6)	1.56E+00	1.56E-01		1.57E-02	NA	NA	NA	NA
Total HPAH (6)	5.55E+00	2.93E+00		2.46E-01	NA	NA	NA	NA
Tributyl Tin	9.00E-03	2.30E-02		1.86E-03	1.19E+00	1.57E-03	7.47E+01	2.49E-05

Highlighted cells = HQ > 1

Table E-18. Screening Level Dose and Hazard Quotients for Least Tern for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	1.80E+00		1.46E-02	3.56E-03	NA	NA	NA	NA
Arsenic	1.19E+01		1.52E+00	3.71E-01	2.87E+00	1.29E-01	1.15E+01	3.23E-02
Cadmium	4.56E-01		1.25E-02	3.05E-03	4.50E-02	6.79E-02	9.18E+00	3.33E-04
Chromium	1.53E+02		2.36E+00	5.76E-01	1.37E+00	4.21E-01	8.02E+00	7.18E-02
Copper	7.72E+01		6.23E+00	1.52E+00	1.35E+00	1.13E+00	3.36E+01	4.53E-02
Lead	4.89E+01		8.46E-01	2.07E-01	1.24E-02	1.67E+01	4.92E+00	4.20E-02
Mercury	6.60E-01		1.67E-01	4.08E-02	2.10E-02	1.94E+00	9.68E-02	4.21E-01
Nickel	9.90E+01		5.15E-01	1.26E-01	8.18E-01	1.54E-01	3.38E+01	3.73E-03
Selenium	1.15E+00		2.02E+00	4.94E-01	1.21E-01	4.08E+00	4.90E-01	1.01E+00
Silver	2.50E+00		7.90E-02	1.93E-02	NA	NA	NA	NA
Zinc	2.10E+02		7.20E+01	1.76E+01	9.34E+00	1.89E+00	9.34E+01	1.89E-01
Total PCB	1.04E+00		3.24E+00	7.93E-01	5.06E-02	1.57E+01	6.13E-01	1.29E+00
Total 4,4-DDx	3.90E-02		1.77E-01	4.34E-02	3.77E-03	1.15E+01	3.23E-01	1.34E-01
Aldrin	6.50E-03		3.90E-04	9.53E-05	NA	NA	NA	NA
alpha-Chlordane	6.50E-03		1.55E-02	3.78E-03	1.99E+00	1.90E-03	9.97E-02	3.79E-02
Dieldrin	1.30E-02		1.92E-02	4.70E-03	4.44E-02	1.06E-01	5.02E-01	9.37E-03
Endosulfan II	1.30E-02		7.92E-04	1.94E-04	NA	NA	NA	NA
gamma-BHC	6.50E-03		4.88E-04	1.19E-04	1.08E+00	1.11E-04	1.08E+01	1.11E-05
gamma-Chlordane	6.50E-03		5.17E-04	1.26E-04	1.99E+00	6.34E-05	9.97E+00	1.27E-05
Total PAH (12)	6.94E+00		1.51E-01	3.70E-02	NA	NA	NA	NA
Total LPAH (6)	1.56E+00		1.24E-01	3.02E-02	NA	NA	NA	NA
Total HPAH (6)	5.55E+00		1.21E-01	2.95E-02	NA	NA	NA	NA
Tributyl Tin	9.00E-03		7.72E-02	1.89E-02	6.27E-01	3.01E-02	3.94E+01	4.79E-04

Highlighted cells = HQ > 1

Table E-19. Screening Level Dose and Hazard Quotient for the Double-Crested Cormorant for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	1.80E+00		1.46E-02	2.73E-03	NA	NA	NA	NA
Arsenic	1.19E+01		1.52E+00	9.55E-02	5.91E+00	1.62E-02	2.36E+01	4.04E-03
Cadmium	4.56E-01		1.25E-02	1.17E-03	9.27E-02	1.26E-02	1.89E+01	6.20E-05
Chromium	1.53E+02		2.36E+00	2.93E-01	2.82E+00	1.04E-01	1.65E+01	1.77E-02
Copper	7.72E+01		6.23E+00	4.23E-01	2.79E+00	1.52E-01	6.93E+01	6.10E-03
Lead	4.89E+01		8.46E-01	9.88E-02	2.55E-02	3.88E+00	1.01E+01	9.75E-03
Mercury	6.60E-01		1.67E-01	9.80E-03	4.32E-02	2.27E-01	1.99E-01	4.92E-02
Nickel	9.90E+01		5.15E-01	1.35E-01	1.69E+00	7.99E-02	6.96E+01	1.94E-03
Selenium	1.15E+00		2.02E+00	1.11E-01	2.50E-01	4.46E-01	1.01E+00	1.10E-01
Silver	2.50E+00		7.90E-02	7.00E-03	NA	NA	NA	NA
Zinc	2.10E+02		7.20E+01	4.15E+00	1.92E+01	2.16E-01	1.92E+02	2.16E-02
Total PCB	1.04E+00		3.24E+00	1.78E-01	1.04E-01	1.71E+00	1.26E+00	1.41E-01
Total 4,4-DDx	3.90E-02		1.77E-01	9.71E-03	7.76E-03	1.25E+00	6.65E-01	1.46E-02
Aldrin	6.50E-03		3.90E-04	2.83E-05	NA	NA	NA	NA
alpha-Chlordane	6.50E-03		1.55E-02	8.50E-04	4.11E+00	2.07E-04	2.05E-01	4.14E-03
Dieldrin	1.30E-02		1.92E-02	1.06E-03	9.15E-02	1.16E-02	1.03E+00	1.03E-03
Endosulfan II	1.30E-02		7.92E-04	5.72E-05	NA	NA	NA	NA
gamma-BHC	6.50E-03		4.88E-04	3.36E-05	2.22E+00	1.52E-05	2.22E+01	1.52E-06
gamma-Chlordane	6.50E-03		5.17E-04	3.52E-05	4.11E+00	8.57E-06	2.05E+01	1.71E-06
Total PAH (12)	6.94E+00		1.51E-01	1.57E-02	NA	NA	NA	NA
Total LPAH (6)	1.56E+00		1.24E-01	8.42E-03	NA	NA	NA	NA
Total HPAH (6)	5.55E+00		1.21E-01	1.26E-02	NA	NA	NA	NA
Tributyl Tin	9.00E-03		7.72E-02	4.22E-03	1.29E+00	3.27E-03	8.12E+01	5.20E-05

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E.4 SUPPORTING INFORMATION ON THE BASELINE EVALUATION OF BENTHIC INVERTEBRATES

The Breakwater Beach/Seaplane Lagoon Supplemental Amphipod Toxicity Study was undertaken in August-September 2002 to address the issue of potential confounding factors leading to an overestimate of benthic toxicity in previous studies. The Supplemental Amphipod Toxicity Study was a standard laboratory determination of acute toxicity resulting from a 10-day static exposure of the amphipod *Eohaustorius estuarius* to marine sediment, with a concurrent characterization of sediment physical and chemical characteristics. Thirteen surface sediment samples from Breakwater Beach and Seaplane Lagoon were tested along with native control sediment from the *E. estuarius* collection site.

Potential confounding factors (e.g., organism acclimation and holding time, ammonia produced during the test, and grain size) evaluated in the bioassay pretest study (Battelle et al., 1999) were minimized or eliminated by ensuring that appropriate organism acclimation and test monitoring procedures were followed. Procedures for the Supplemental Amphipod Toxicity Study were the same as those employed for the Hunters Point Validation Study (Battelle et al., 2005), with particular attention paid to the following procedures:

- Ensure organisms are in good health and from a reliable source, and that supplier does not alter water quality conditions prior to shipping;
- Acclimate organisms gradually from collection/shipping conditions to laboratory test conditions;
- Measure and document bulk sediment porewater characteristics (ammonia, salinity, pH) prior to conducting exposure;
- Monitor porewater ammonia concentrations in test chambers at beginning and end of test as well as one intervening day (usually Days 0, 3, and 10);
- Measure population-specific sensitivity to ammonia;
- Monitor water quality characteristics in actual test chambers during the test (rather than a surrogate chamber).

The approach and methods for the Supplemental Amphipod Toxicity Study are provided in the project specific work plan, Breakwater Beach/Seaplane Lagoon Supplemental Amphipod Toxicity Study Work Plan, Alameda Point (Battelle et al., 2002). Methods are briefly summarized below in Section E.4.1; results are provided in Section E.4.2.

E.4.1 Methods

E. estuarius amphipods were obtained from Northwest Aquatic Sciences, the same supplier who had provided amphipods for previous Alameda Point bioassays. However, it was requested that the supplier ship the organisms in the sediment at the same salinity at which they were collected (no acclimation prior to shipping). The supplier provided the collection location, water salinity and temperature at collection and shipping, and an appropriate volume of native sediment for shipping and holding the amphipods. Upon receipt at the bioassay laboratory, *E. estuarius* were acclimated to laboratory test conditions following U.S. EPA recommended procedures (U.S. EPA, 1994), then held for at least 48 hours between acclimation and test initiation. U.S. EPA methods specify limits on the rate of acclimation to changes in salinity to not exceed 5‰ per day and changes in temperature to not exceed 3°C per day. Review of laboratory records for amphipod toxicity testing during the 1998 Alameda offshore sediment evaluation revealed that the rate of salinity adjustment was considerably greater than that recommended by U.S. EPA.

The amphipod bioassay was conducted following the standard method for a 10-d static amphipod bioassay. A native control sediment treatment was tested along with 13 samples from Alameda Point. Control sediment was sieved through a 0.5-mm sieve prior to testing. Alameda Point sediment was not sieved; all samples were homogenized prior to testing. Prior to adding the test organisms, ammonia was measured in sediment porewater to ensure that the 60 mg/L no-effect threshold for *E. estuarius* was not exceeded. Other water quality parameters (temperature, DO, pH, and salinity) were measured in overlying water of every replicate prior to introducing organisms. During the test, water quality parameters were monitored in one replicate per treatment until Day 10, when every chamber was monitored. Twenty individuals were introduced to each of the five test replicates for a test population of 100 individuals per treatment. During the 10-d exposure, organism behavior was observed and documented daily. On Day 10, sediment from each test chamber was gently sieved through a 0.5-mm sieve. The number of live and dead organisms was recorded; at least 10% of the mortality counts were independently confirmed by a second analyst.

Two 96-hour reference toxicants (positive control) tests were conducted, one with cadmium and one with aqueous ammonia. The reference toxicant tests assess organism sensitivity to known toxicants as well as population-specific ammonia sensitivity, which can be related to sediment porewater ammonia levels. Median lethal concentrations (LC50s) of cadmium and ammonia were estimated from the reference toxicant data, and compared with laboratory control charts to determine whether the test population exhibited normal sensitivity to known toxicants.

E.4.2 Results

Five sediment samples from Breakwater Beach were collected August 27-28, 2002. The field sampling effort was documented in the Field Survey Report, Breakwater Beach/Seaplane Lagoon Supplemental Amphipod Toxicity Study Alameda Point, California (Battelle, 2002). The 10-d bioassay with *E. estuarius* was conducted September 3-13, 2002. The amphipod test was validated by 97% mean survival in the native control sediment. The cadmium sensitivity of the test population was normal, with a LC50 of 10.3 mg/L Cd, which is within the laboratory control limits of 3.3 to 17.6 mg/L and very close to the historical mean LC50 of 10.5 mg/L Cd. In the ammonia reference toxicant test, the no observable effects concentration (NOEC) was 80 mg/L and the LC50 was 182 mg/L (based on nominal exposure concentrations). These results indicate that the test population was somewhat less sensitive to ammonia than other batches of *E. estuarius* previously tested by Battelle, as the laboratory control limits are 78.2 to 173.3 mg/L total ammonia. Since ammonia levels in the sediment exposure were below the population-specific NOEC (Table E-20), we concluded that ammonia was not a contributor to sediment toxicity in this study.

Table E-20. Ammonia Concentrations in Sediment Porewater from Breakwater Beach.

Porewater Total Ammonia (mg/L)					
		Bulk Sediment	Day 0	Day 3	Day 10
Station	Threshold	8/29/2002	9/3/2002	9/6/2002	9/13/2002
Control	60	NM(a)	3.7	4.7	4.9
BB004	60	13.0	19.8	23.1	13.8
BW02	60	7.5(b)	14.2	7.5	1.8
BW03	60	4.0(b)	5.7	4.2	1.8
BW04	60	3.3(b)	2.9	1.4	0.3(b)
BW05	60	4.0(b)	2.8	1.8	0.4(b)

(a) NM = Not measured. (b) Estimated value: below instrument calibration range (lower calibration limit was 10 mg/L when measuring bulk sediment, 1 mg/L during test).

E. estuarius survival in Breakwater Beach sediment samples ranged from 78% to 90% (Table E-21). None of the samples were below the SWRCB reference envelope threshold limit, indicating that all samples were similar or less toxic than ambient. At co-located stations with amphipod results in 1998 and 2002, survival was 17% to 28% higher in 2002. Although sediment chemistry might have changed slightly between the studies, the gradient of high to low chemical concentrations was maintained. Based on comparisons to the historical data, it appears that the majority of the difference in the amphipod survival between the studies was due to confounding factors. In particular, careful handling of the organisms and gradual acclimation to test conditions probably had the greatest impact, since ammonia was not present at concentrations that would elicit toxicity to *E. estuarius.* The Supplemental Amphipod Toxicity Study showed that careful handling of organisms and attention to monitoring ammonia levels and ammonia sensitivity of the test population resulted in improved amphipod survival in sediments that had previously been identified as toxic, but where toxicity did not appear to be related to sediment contaminant concentrations. Overall, no acute toxicity is anticipated for benthic invertebrates exposed to sediment at Breakwater Beach.

Table E-21. Results of the 10-d *E. estuarius* Sediment Bioassay for Breakwater Beach.

Station	Mean Percent Survival	sd	CV	Mean % Survival Relative to Control	Exceeded SWRCB Limit of 69.5% Relative to Control?
E. estuarius Control	97.0	0.03	3%	100.0	NA
BB004	78.0	0.14	18%	80.4	no
BW02	77.0	0.12	16%	79.4	no
BW03	88.0	0.08	9%	90.7	no
BW04	88.0	0.08	10%	90.7	no
BW05	90.0	0.04	4%	92.8	no

E.4.3 References

Battelle. 2002. *Survey Report Breakwater Beach/Seaplane Lagoon Supplemental Amphipod Toxicity Study Alameda Point, California.* Prepared for Southwest Division, Naval Facilities Engineering Command, San Diego, CA. October 4.

Battelle, Entrix Inc, and Neptune & Co. 2002. *Breakwater Beach/Seaplane Lagoon Supplemental Amphipod Toxicity Study Work Plan, Alameda Point.* Prepared for Southwest Division, Naval Facilities Engineering Command, San Diego, California. July 31, 2002.

Battelle, Entrix Inc., and Neptune & Co. 2005. *Final, Hunters Point Shipyard Parcel F Validation Study Report, San Francisco, California.* Prepared for Southwest Division, Naval Facilities Engineering Command, San Diego, CA. April 25.

Battelle, Entrix Inc., and Neptune & Co. 1999. *Draft Sediment Bioassay Pre-Test Field Summary Report.* Prepared for the U.S. Navy, Engineering Field Activity West, San Bruno, CA. October 21.

United States Environmental Protection Agency (U.S. EPA). 1994. *Methods for Assessing the Toxicity of Sediment-Associated Contaminants with Estuarine and Marine Amphipods.* EPA/600/R-94/025. Prepared by U.S. EPA's Environmental Research Laboratory, Narragansett, RI, for the U.S. EPA's Office of Water. Available at: www.epa.gov/clariton/clhtml/pubord.html.

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E.5 SUPPORTING INFORMATION FOR THE BASELINE FOOD CHAIN RISK ESTIMATES

In the baseline ecological risk assessment (BERA), exposure estimates were refined and hazard quotients (HQs) estimated. Tables E-22 through E-36 present the supporting information for the dose-modeling used in the BERA.

Table E-22. Baseline Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	**9.78E+00**	**1.93E+00**		**1.75E-01**	**NA**	**NA**	**NA**	**NA**
Arsenic	5.77E+00	2.58E+01		2.08E+00	5.43E+00	3.82E-01	2.17E+01	9.56E-02
Cadmium	1.38E-01	1.68E-02		1.64E-03	8.53E-02	1.92E-02	1.74E+01	9.41E-05
Chromium	**7.55E+01**	**1.45E+01**		**1.32E+00**	**2.59E+00**	**5.07E-01**	**1.52E+01**	**8.65E-02**
Copper	2.52E+01	1.18E+01		9.94E-01	2.56E+00	3.88E-01	6.37E+01	1.56E-02
Lead	1.79E+01	4.06E+00		3.62E-01	2.34E-02	1.54E+01	9.33E+00	3.88E-02
Mercury	2.12E-01	1.50E-01		1.25E-02	3.98E-02	3.14E-01	1.83E-01	6.80E-02
Nickel	4.58E+01	4.25E+00		4.36E-01	1.55E+00	2.81E-01	6.40E+01	6.82E-03
Selenium	2.22E-01	8.48E-01		6.83E-02	2.30E-01	2.97E-01	9.28E-01	7.36E-02
Silver	2.07E-01	3.55E-02		3.27E-03	NA	NA	NA	NA
Zinc	7.12E+01	1.07E+02		8.74E+00	1.77E+01	4.94E-01	1.77E+02	4.94E-02
Total PCB	**1.86E-02**	**2.62E-05**		**4.11E-05**	**9.59E-02**	**4.28E-04**	**1.16E+00**	**3.54E-05**
Total 4,4-DDx	**8.66E-03**	**2.79E-02**		**2.25E-03**	**7.14E-03**	**3.15E-01**	**6.12E-01**	**3.68E-03**
Aldrin	**3.10E-04**	**2.90E-06**		**8.80E-07**	**NA**	**NA**	**NA**	**NA**
***alpha*-BHC**	**4.00E-04**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**8.54E-04**	**5.59E-07**		**1.83E-06**	**3.78E+00**	**4.84E-07**	**1.89E-01**	**9.68E-06**
Dieldrin	**1.13E-03**	**7.36E-06**		**2.95E-06**	**8.42E-02**	**3.51E-05**	**9.51E-01**	**3.10E-06**
Endosulfan II	**4.30E-04**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**1.49E-03**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**4.90E-04**	**2.80E-06**		**1.25E-06**	**2.04E+00**	**6.12E-07**	**2.04E+01**	**6.12E-08**
***gamma*-Chlordane**	**8.27E-04**	**NA**		**NA**	**3.78E+00**	**NA**	**1.89E+01**	**NA**
Heptachlor	**2.20E-04**	**8.48E-07**		**5.28E-07**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**3.00E-04**	**1.02E-06**		**7.09E-07**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**1.10E+00**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**3.14E-01**	**1.12E-04**		**6.66E-04**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**8.08E-01**	**9.44E-04**		**1.77E-03**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.86E-03**	**3.43E-06**		**8.34E-06**	**1.19E+00**	**7.02E-06**	**7.47E+01**	**1.12E-07**

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-23. Baseline Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	8.65E-02	1.71E-02		1.55E-03	NA	NA	NA	NA
Arsenic	4.23E+00	2.58E+01		2.07E+00	5.43E+00	3.82E-01	2.17E+01	9.54E-02
Cadmium	1.83E-01	2.23E-02		2.17E-03	8.53E-02	2.54E-02	1.74E+01	1.24E-04
Chromium	6.03E+01	1.16E+01		1.05E+00	2.59E+00	4.05E-01	1.52E+01	6.91E-02
Copper	2.34E+01	1.18E+01		9.90E-01	2.56E+00	3.86E-01	6.37E+01	1.55E-02
Lead	1.91E+01	4.06E+00		3.64E-01	2.34E-02	1.56E+01	9.33E+00	3.91E-02
Mercury	2.06E-01	1.50E-01		1.25E-02	3.98E-02	3.14E-01	1.83E-01	6.79E-02
Nickel	4.12E+01	4.25E+00		4.26E-01	1.55E+00	2.75E-01	6.40E+01	6.66E-03
Silver	3.06E-01	5.23E-02		4.83E-03	NA	NA	NA	NA
Zinc	5.58E+01	1.07E+02		8.71E+00	1.77E+01	4.92E-01	1.77E+02	4.92E-02
Total PCB	**3.72E-02**	**5.23E-05**		**8.19E-05**	**9.59E-02**	**8.54E-04**	**1.16E+00**	**7.05E-05**
Total 4,4-DDx	5.24E-03	2.79E-02		2.24E-03	7.14E-03	3.14E-01	6.12E-01	3.67E-03
Aldrin	4.47E-05	4.19E-07		1.27E-07	NA	NA	NA	NA
alpha-BHC	6.28E-05	NA		NA	NA	NA	NA	NA
alpha-Chlordane	1.94E-04	1.27E-07		4.16E-07	3.78E+00	1.10E-07	1.89E-01	2.20E-06
Dieldrin	2.06E-04	1.34E-06		5.39E-07	8.42E-02	6.40E-06	9.51E-01	5.67E-07
Endosulfan II	1.04E-04	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	**1.85E-04**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**6.69E-05**	**3.82E-07**		**1.70E-07**	**2.04E+00**	**8.36E-08**	**2.04E+01**	**8.36E-09**
gamma-Chlordane	2.28E-04	NA		NA	3.78E+00	NA	1.89E+01	NA
Heptachlor	3.51E-05	1.35E-07		8.42E-08	NA	NA	NA	NA
Heptachlor Epoxide	4.69E-05	1.59E-07		1.11E-07	NA	NA	NA	NA
Total PAH (12)	2.10E+00	NA		NA	NA	NA	NA	NA
Total LPAH (6)	2.61E-01	9.34E-05		5.53E-04	NA	NA	NA	NA
Total HPAH (6)	1.85E+00	2.16E-03		4.05E-03	NA	NA	NA	NA
Tributyl Tin	1.07E-03	9.51E-07		2.32E-06	1.19E+00	1.95E-06	7.47E+01	3.10E-08

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-24. Baseline Dose and Hazard Quotient Results for the Surf Scoter for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.11E-02	1.80E-02		1.63E-03	NA	NA	NA	NA
Arsenic	4.33E+00	2.58E+01		2.07E+00	5.43E+00	3.82E-01	2.17E+01	9.54E-02
Cadmium	3.25E-01	3.96E-02		3.85E-03	8.53E-02	4.51E-02	1.74E+01	2.21E-04
Chromium	5.74E+01	1.10E+01		1.00E+00	2.59E+00	3.86E-01	1.52E+01	6.57E-02
Copper	2.21E+01	1.18E+01		9.88E-01	2.56E+00	3.85E-01	6.37E+01	1.55E-02
Lead	1.95E+01	4.06E+00		3.65E-01	2.34E-02	1.56E+01	9.33E+00	3.92E-02
Mercury	2.82E-01	1.50E-01		1.26E-02	3.98E-02	3.18E-01	1.83E-01	6.88E-02
Nickel	4.22E+01	4.25E+00		4.29E-01	1.55E+00	2.76E-01	6.40E+01	6.70E-03
Silver	2.00E-01	3.42E-02		3.15E-03	NA	NA	NA	NA
Zinc	5.29E+01	1.07E+02		8.70E+00	1.77E+01	4.92E-01	1.77E+02	4.92E-02
Total PCB	**2.98E-02**	**4.19E-05**		**6.56E-05**	**9.59E-02**	**6.84E-04**	**1.16E+00**	**5.65E-05**
Total 4,4-DDx	3.07E-03	2.79E-02		2.24E-03	7.14E-03	3.13E-01	6.12E-01	3.66E-03
alpha-Chlordane	1.36E-04	8.90E-08		2.91E-07	3.78E+00	7.71E-08	1.89E-01	1.54E-06
Dieldrin	2.34E-04	1.53E-06		6.12E-07	8.42E-02	7.27E-06	9.51E-01	6.44E-07
Endosulfan II	1.25E-04	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	**1.43E-04**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**1.45E-04**	**NA**		**NA**	**3.78E+00**	**NA**	**1.89E+01**	**NA**
Total PAH (12)	2.52E+01	NA		NA	NA	NA	NA	NA
Total LPAH (6)	3.30E+00	1.18E-03		6.99E-03	NA	NA	NA	NA
Total HPAH (6)	2.20E+01	2.57E-02		4.81E-02	NA	NA	NA	NA
Tributyl Tin	1.17E-03	1.04E-06		2.52E-06	1.19E+00	2.12E-06	7.47E+01	3.38E-08

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-25. Reference Dose and Hazard Quotient Results for the Surf Scoter

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF			
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00			
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit			
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.30E-01	1.40E-01		1.26E-02	NA	NA	NA	NA
Arsenic	9.50E+00	2.10E+01		1.62E+00	5.43E+00	2.99E-01	2.17E+01	7.47E-02
Cadmium	3.30E-01	6.70E-01		5.19E-02	8.53E-02	6.08E-01	1.74E+01	2.98E-03
Chromium	8.10E+01	1.80E+01		1.54E+00	2.59E+00	5.95E-01	1.52E+01	1.02E-01
Copper	4.10E+01	1.40E+01		1.15E+00	2.56E+00	4.50E-01	6.37E+01	1.81E-02
Lead	2.40E+01	2.60E+00		2.49E-01	2.34E-02	1.06E+01	9.33E+00	2.67E-02
Mercury	4.00E-01	1.20E-01		1.00E-02	3.98E-02	2.52E-01	1.83E-01	5.45E-02
Nickel	7.90E+01	1.80E+01		1.54E+00	1.55E+00	9.93E-01	6.40E+01	2.41E-02
Silver	3.00E-01	1.60E-01		1.28E-02	NA	NA	NA	NA
Zinc	1.07E+02	1.02E+02		8.01E+00	1.77E+01	4.53E-01	1.77E+02	4.53E-02
Total PCB	1.10E-02	4.30E-02		3.31E-03	9.59E-02	3.45E-02	1.16E+00	2.85E-03
Total 4,4-DDx	4.30E-03	9.20E-03		7.12E-04	7.14E-03	9.97E-02	6.12E-01	1.16E-03
alpha-Chlordane	1.30E-04	7.50E-04		5.75E-05	3.78E+00	1.52E-05	1.89E-01	3.04E-04
Dieldrin	1.30E-04	1.30E-03		9.95E-05	8.42E-02	1.18E-03	9.51E-01	1.05E-04
Endosulfan II	NA	NA		NA	NA	NA	NA	NA
Endrin Aldehyde	NA	NA		NA	NA	NA	NA	NA
gamma-Chlordane	5.00E-05	6.00E-04		4.59E-05	3.78E+00	1.21E-05	1.89E+01	2.43E-06
Total PAH (12)	1.07E+00	2.60E-02		4.22E-03	NA	NA	NA	NA
Total LPAH (6)	1.94E-01	2.68E-01		2.09E-02	NA	NA	NA	NA
Total HPAH (6)	1.07E+00	2.60E-02		4.22E-03	NA	NA	NA	NA
Tributyl Tin	3.80E-03	3.50E-02		2.68E-03	1.19E+00	2.26E-03	7.47E+01	3.59E-05

Highlighted cells = HQ > 1

Table E-26. Baseline Dose and Hazard Quotient Results for the Least Tern for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	**9.78E+00**		**7.92E-02**	**1.94E-02**	**NA**	**NA**	**NA**	**NA**
Arsenic	5.77E+00		7.36E-01	1.80E-01	2.87E+00	6.28E-02	1.15E+01	1.57E-02
Cadmium	1.38E-01		3.79E-03	9.26E-04	4.50E-02	2.06E-02	9.18E+00	1.01E-04
Chromium	**7.55E+01**		**1.16E+00**	**2.84E-01**	**1.37E+00**	**2.08E-01**	**8.02E+00**	**3.54E-02**
Copper	2.52E+01		2.03E+00	4.96E-01	1.35E+00	3.67E-01	3.36E+01	1.48E-02
Lead	1.79E+01		3.09E-01	7.57E-02	1.24E-02	6.12E+00	4.92E+00	1.54E-02
Mercury	2.12E-01		5.37E-02	1.31E-02	2.10E-02	6.25E-01	9.68E-02	1.36E-01
Nickel	4.58E+01		2.38E-01	5.83E-02	8.18E-01	7.12E-02	3.38E+01	1.73E-03
Selenium	2.22E-01		3.90E-01	9.53E-02	1.21E-01	7.87E-01	4.90E-01	1.95E-01
Silver	2.07E-01		6.55E-03	1.60E-03	NA	NA	NA	NA
Zinc	7.12E+01		2.44E+01	5.96E+00	9.34E+00	6.39E-01	9.34E+01	6.39E-02
Total PCB	**1.86E-02**		**5.82E-02**	**1.42E-02**	**5.06E-02**	**2.81E-01**	**6.13E-01**	**2.32E-02**
Total 4,4-DDx	**8.66E-03**		**3.94E-02**	**9.63E-03**	**3.77E-03**	**2.56E+00**	**3.23E-01**	**2.98E-02**
Aldrin	**3.10E-04**		**1.86E-05**	**4.55E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-BHC**	**4.00E-04**		**2.02E-05**	**4.95E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**8.54E-04**		**2.03E-03**	**4.97E-04**	**1.99E+00**	**2.49E-04**	**9.97E-02**	**4.98E-03**
Dieldrin	**1.13E-03**		**1.67E-03**	**4.09E-04**	**4.44E-02**	**9.20E-03**	**5.02E-01**	**8.15E-04**
Endosulfan II	**4.30E-04**		**2.62E-05**	**6.40E-06**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**1.49E-03**		**4.02E-05**	**9.83E-06**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**4.90E-04**		**3.68E-05**	**9.00E-06**	**1.08E+00**	**8.36E-06**	**1.08E+01**	**8.36E-07**
***gamma*-Chlordane**	**8.27E-04**		**6.58E-05**	**1.61E-05**	**1.99E+00**	**8.07E-06**	**9.97E+00**	**1.61E-06**
Heptachlor	**2.20E-04**		**1.04E-05**	**2.53E-06**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**3.00E-04**		**1.66E-05**	**4.06E-06**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**1.10E+00**		**2.41E-02**	**5.88E-03**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**3.14E-01**		**2.49E-02**	**6.09E-03**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**8.08E-01**		**1.76E-02**	**4.31E-03**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.86E-03**		**3.31E-02**	**8.09E-03**	**6.27E-01**	**1.29E-02**	**3.94E+01**	**2.05E-04**

Bold text indicates constituent is above background

Highlighted cells = HQ > 1

Table E-27. Baseline Dose and Hazard Quotient Results for the Least Tern for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	8.65E-02		7.01E-04	1.71E-04	NA	NA	NA	NA
Arsenic	4.23E+00		5.40E-01	1.32E-01	2.87E+00	4.60E-02	1.15E+01	1.15E-02
Cadmium	1.83E-01		5.01E-03	1.23E-03	4.50E-02	2.72E-02	9.18E+00	1.34E-04
Chromium	6.03E+01		9.29E-01	2.27E-01	1.37E+00	1.66E-01	8.02E+00	2.83E-02
Copper	2.34E+01		1.89E+00	4.61E-01	1.35E+00	3.41E-01	3.36E+01	1.37E-02
Lead	1.91E+01		3.30E-01	8.07E-02	1.24E-02	6.53E+00	4.92E+00	1.64E-02
Mercury	2.06E-01		5.22E-02	1.28E-02	2.10E-02	6.08E-01	9.68E-02	1.32E-01
Nickel	4.12E+01		2.14E-01	5.23E-02	8.18E-01	6.39E-02	3.38E+01	1.55E-03
Silver	3.06E-01		9.66E-03	2.36E-03	NA	NA	NA	NA
Zinc	5.58E+01		1.91E+01	4.68E+00	9.34E+00	5.01E-01	9.34E+01	5.01E-02
Total PCB	**3.72E-02**		**1.16E-01**	**2.83E-02**	**5.06E-02**	**5.60E-01**	**6.13E-01**	**4.62E-02**
Total 4,4-DDx	5.24E-03		2.38E-02	5.83E-03	3.77E-03	1.55E+00	3.23E-01	1.81E-02
Aldrin	4.47E-05		2.68E-06	6.56E-07	NA	NA	NA	NA
alpha-BHC	6.28E-05		3.18E-06	7.77E-07	NA	NA	NA	NA
alpha-Chlordane	1.94E-04		4.62E-04	1.13E-04	1.99E+00	5.66E-05	9.97E-02	1.13E-03
Dieldrin	2.06E-04		3.05E-04	7.46E-05	4.44E-02	1.68E-03	5.02E-01	1.49E-04
Endosulfan II	1.04E-04		6.31E-06	1.54E-06	NA	NA	NA	NA
Endrin Aldehyde	**1.85E-04**		**4.98E-06**	**1.22E-06**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**6.69E-05**		**5.02E-06**	**1.23E-06**	**1.08E+00**	**1.14E-06**	**1.08E+01**	**1.14E-07**
gamma-Chlordane	2.28E-04		1.81E-05	4.43E-06	1.99E+00	2.22E-06	9.97E+00	4.44E-07
Heptachlor	3.51E-05		1.65E-06	4.04E-07	NA	NA	NA	NA
Heptachlor Epoxide	4.69E-05		2.59E-06	6.33E-07	NA	NA	NA	NA
Total PAH (12)	2.10E+00		4.58E-02	1.12E-02	NA	NA	NA	NA
Total LPAH (6)	2.61E-01		2.07E-02	5.06E-03	NA	NA	NA	NA
Total HPAH (6)	1.85E+00		4.04E-02	9.87E-03	NA	NA	NA	NA
Tributyl Tin	1.07E-03		9.19E-03	2.25E-03	6.27E-01	3.58E-03	3.94E+01	5.70E-05

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-28. Baseline Dose and Hazard Quotient Results for the Least Tern for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.11E-02		7.38E-04	1.80E-04	NA	NA	NA	NA
Arsenic	4.33E+00		5.52E-01	1.35E-01	2.87E+00	4.71E-02	1.15E+01	1.18E-02
Cadmium	3.25E-01		8.91E-03	2.18E-03	4.50E-02	4.84E-02	9.18E+00	2.37E-04
Chromium	5.74E+01		8.83E-01	2.16E-01	1.37E+00	1.58E-01	8.02E+00	2.69E-02
Copper	2.21E+01		1.78E+00	4.35E-01	1.35E+00	3.22E-01	3.36E+01	1.29E-02
Lead	1.95E+01		3.37E-01	8.24E-02	1.24E-02	6.67E+00	4.92E+00	1.67E-02
Mercury	2.82E-01		7.13E-02	1.74E-02	2.10E-02	8.31E-01	9.68E-02	1.80E-01
Nickel	4.22E+01		2.19E-01	5.37E-02	8.18E-01	6.56E-02	3.38E+01	1.59E-03
Silver	2.00E-01		6.31E-03	1.54E-03	NA	NA	NA	NA
Zinc	5.29E+01		1.81E+01	4.43E+00	9.34E+00	4.74E-01	9.34E+01	4.74E-02
Total PCB	**2.98E-02**		**9.29E-02**	**2.27E-02**	**5.06E-02**	**4.49E-01**	**6.13E-01**	**3.70E-02**
Total 4,4-DDx	3.07E-03		1.40E-02	3.42E-03	3.77E-03	9.07E-01	3.23E-01	1.06E-02
alpha-Chlordane	1.36E-04		3.23E-04	7.91E-05	1.99E+00	3.96E-05	9.97E-02	7.93E-04
Dieldrin	2.34E-04		3.47E-04	8.48E-05	4.44E-02	1.91E-03	5.02E-01	1.69E-04
Endosulfan II	1.25E-04		7.62E-06	1.86E-06	NA	NA	NA	NA
Endrin Aldehyde	**1.43E-04**		**3.86E-06**	**9.42E-07**	**NA**	**NA**	**NA**	**NA**
***gamma*-Chlordane**	**1.45E-04**		**1.15E-05**	**2.82E-06**	**1.99E+00**	**1.41E-06**	**9.97E+00**	**2.83E-07**
Total PAH (12)	2.52E+01		5.48E-01	1.34E-01	NA	NA	NA	NA
Total LPAH (6)	3.30E+00		2.61E-01	6.39E-02	NA	NA	NA	NA
Total HPAH (6)	2.20E+01		4.80E-01	1.17E-01	NA	NA	NA	NA
Tributyl Tin	1.17E-03		1.00E-02	2.45E-03	6.27E-01	3.90E-03	3.94E+01	6.21E-05

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-29. Reference Dose and Hazard Quotient Results for the Least Tern

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.30E-01		7.53E-03	1.39E-03	NA	NA	NA	NA
Arsenic	9.50E+00		1.21E+00	2.23E-01	2.87E+00	7.79E-02	1.15E+01	1.95E-02
Cadmium	3.30E-01		9.04E-03	1.67E-03	4.50E-02	3.71E-02	9.18E+00	1.82E-04
Chromium	8.10E+01		1.25E+00	2.30E-01	1.37E+00	1.68E-01	8.02E+00	2.87E-02
Copper	4.10E+01		3.31E+00	6.10E-01	1.35E+00	4.51E-01	3.36E+01	1.81E-02
Lead	2.40E+01		4.15E-01	7.66E-02	1.24E-02	6.20E+00	4.92E+00	1.56E-02
Mercury	4.00E-01		1.01E-01	1.87E-02	2.10E-02	8.89E-01	9.68E-02	1.93E-01
Nickel	7.90E+01		4.11E-01	7.58E-02	8.18E-01	9.26E-02	3.38E+01	2.24E-03
Silver	3.00E-01		9.48E-03	1.75E-03	NA	NA	NA	NA
Zinc	1.07E+02		3.67E+01	6.77E+00	9.34E+00	7.25E-01	9.34E+01	7.25E-02
Total PCB	1.10E-02		3.43E-02	6.33E-03	5.06E-02	1.25E-01	6.13E-01	1.03E-02
Total 4,4-DDx	4.30E-03		1.96E-02	3.61E-03	3.77E-03	9.58E-01	3.23E-01	1.12E-02
alpha-Chlordane	1.30E-04		3.09E-04	5.71E-05	1.99E+00	2.86E-05	9.97E-02	5.72E-04
Dieldrin	1.30E-04		1.92E-04	3.55E-05	4.44E-02	7.99E-04	5.02E-01	7.07E-05
Endosulfan II	NA		NA	NA	NA	NA	NA	NA
Endrin Aldehyde	NA		NA	NA	NA	NA	NA	NA
gamma-Chlordane	5.00E-05		3.98E-06	7.34E-07	1.99E+00	3.68E-07	9.97E+00	7.36E-08
Total PAH (12)	1.07E+00		2.33E-02	4.30E-03	NA	NA	NA	NA
Total LPAH (6)	1.94E-01		1.54E-02	2.84E-03	NA	NA	NA	NA
Total HPAH (6)	1.07E+00		2.33E-02	4.30E-03	NA	NA	NA	NA
Tributyl Tin	3.80E-03		3.26E-02	6.01E-03	6.27E-01	9.60E-03	3.94E+01	1.53E-04

Highlighted cells = HQ > 1

Table E-30. Baseline Dose and Hazard Quotient Results for the Cormorant for Western Bayside All Years Data

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	**9.78E+00**		**7.92E-02**	**1.49E-02**	**NA**	**NA**	**NA**	**NA**
Arsenic	5.77E+00		7.36E-01	4.63E-02	5.91E+00	7.84E-03	2.36E+01	1.96E-03
Cadmium	1.38E-01		3.79E-03	3.56E-04	9.27E-02	3.84E-03	1.89E+01	1.88E-05
Chromium	**7.55E+01**		**1.16E+00**	**1.45E-01**	**2.82E+00**	**5.13E-02**	**1.65E+01**	**8.75E-03**
Copper	2.52E+01		2.03E+00	1.38E-01	2.79E+00	4.94E-02	6.93E+01	1.99E-03
Lead	1.79E+01		3.09E-01	3.61E-02	2.55E-02	1.42E+00	1.01E+01	3.57E-03
Mercury	2.12E-01		5.37E-02	3.15E-03	4.32E-02	7.30E-02	1.99E-01	1.58E-02
Nickel	4.58E+01		2.38E-01	6.24E-02	1.69E+00	3.70E-02	6.96E+01	8.97E-04
Selenium	2.22E-01		3.90E-01	2.15E-02	2.50E-01	8.61E-02	1.01E+00	2.13E-02
Silver	2.07E-01		6.55E-03	5.80E-04	NA	NA	NA	NA
Zinc	7.12E+01		2.44E+01	1.41E+00	1.92E+01	7.31E-02	1.92E+02	7.31E-03
Total PCB	**1.86E-02**		**5.82E-02**	**3.19E-03**	**1.04E-01**	**3.06E-02**	**1.26E+00**	**2.53E-03**
Total 4,4-DDx	**8.66E-03**		**3.94E-02**	**2.16E-03**	**7.76E-03**	**2.78E-01**	**6.65E-01**	**3.24E-03**
Aldrin	**3.10E-04**		**1.86E-05**	**1.35E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-BHC**	**4.00E-04**		**2.02E-05**	**1.53E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**8.54E-04**		**2.03E-03**	**1.12E-04**	**4.11E+00**	**2.72E-05**	**2.05E-01**	**5.44E-04**
Dieldrin	**1.13E-03**		**1.67E-03**	**9.23E-05**	**9.15E-02**	**1.01E-03**	**1.03E+00**	**8.93E-05**
Endosulfan II	**4.30E-04**		**2.62E-05**	**1.89E-06**	**NA**	**NA**	**NA**	**NA**
Endrin Aldehyde	**1.49E-03**		**4.02E-05**	**3.80E-06**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**4.90E-04**		**3.68E-05**	**2.53E-06**	**2.22E+00**	**1.14E-06**	**2.22E+01**	**1.14E-07**
***gamma*-Chlordane**	**8.27E-04**		**6.58E-05**	**4.48E-06**	**4.11E+00**	**1.09E-06**	**2.05E+01**	**2.18E-07**
Heptachlor	**2.20E-04**		**1.04E-05**	**8.02E-07**	**NA**	**NA**	**NA**	**NA**
Heptachlor Epoxide	**3.00E-04**		**1.66E-05**	**1.23E-06**	**NA**	**NA**	**NA**	**NA**
Total PAH (12)	**1.10E+00**		**2.41E-02**	**2.50E-03**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**3.14E-01**		**2.49E-02**	**1.70E-03**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**8.08E-01**		**1.76E-02**	**1.83E-03**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.86E-03**		**3.31E-02**	**1.81E-03**	**1.29E+00**	**1.40E-03**	**8.12E+01**	**2.23E-05**

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-31. Baseline Dose and Hazard Quotient Results for the Cormorant for Western Bayside 2005 Surface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	8.65E-02		7.01E-04	1.31E-04	NA	NA	NA	NA
Arsenic	4.23E+00		5.40E-01	3.40E-02	5.91E+00	5.75E-03	2.36E+01	1.44E-03
Cadmium	1.83E-01		5.01E-03	4.70E-04	9.27E-02	5.07E-03	1.89E+01	2.49E-05
Chromium	6.03E+01		9.29E-01	1.16E-01	2.82E+00	4.10E-02	1.65E+01	6.99E-03
Copper	2.34E+01		1.89E+00	1.28E-01	2.79E+00	4.59E-02	6.93E+01	1.85E-03
Lead	1.91E+01		3.30E-01	3.86E-02	2.55E-02	1.51E+00	1.01E+01	3.80E-03
Mercury	2.06E-01		5.22E-02	3.07E-03	4.32E-02	7.09E-02	1.99E-01	1.54E-02
Nickel	4.12E+01		2.14E-01	5.60E-02	1.69E+00	3.32E-02	6.96E+01	8.05E-04
Silver	3.06E-01		9.66E-03	8.56E-04	NA	NA	NA	NA
Zinc	5.58E+01		1.91E+01	1.10E+00	1.92E+01	5.74E-02	1.92E+02	5.74E-03
Total PCB	**3.72E-02**		**1.16E-01**	**6.36E-03**	**1.04E-01**	**6.10E-02**	**1.26E+00**	**5.04E-03**
Total 4,4-DDx	5.24E-03		2.38E-02	1.31E-03	7.76E-03	1.68E-01	6.65E-01	1.96E-03
Aldrin	4.47E-05		2.68E-06	1.94E-07	NA	NA	NA	NA
alpha-BHC	6.28E-05		3.18E-06	2.41E-07	NA	NA	NA	NA
alpha-Chlordane	1.94E-04		4.62E-04	2.54E-05	4.11E+00	6.18E-06	2.05E-01	1.24E-04
Dieldrin	2.06E-04		3.05E-04	1.69E-05	9.15E-02	1.84E-04	1.03E+00	1.63E-05
Endosulfan II	1.04E-04		6.31E-06	4.55E-07	NA	NA	NA	NA
Endrin Aldehyde	**1.85E-04**		**4.98E-06**	**4.71E-07**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**6.69E-05**		**5.02E-06**	**3.46E-07**	**2.22E+00**	**1.56E-07**	**2.22E+01**	**1.56E-08**
gamma-Chlordane	2.28E-04		1.81E-05	1.23E-06	4.11E+00	3.00E-07	2.05E+01	6.00E-08
Heptachlor	3.51E-05		1.65E-06	1.28E-07	NA	NA	NA	NA
Heptachlor Epoxide	4.69E-05		2.59E-06	1.92E-07	NA	NA	NA	NA
Total PAH (12)	2.10E+00		4.58E-02	4.76E-03	NA	NA	NA	NA
Total LPAH (6)	2.61E-01		2.07E-02	1.41E-03	NA	NA	NA	NA
Total HPAH (6)	1.85E+00		4.04E-02	4.20E-03	NA	NA	NA	NA
Tributyl Tin	1.07E-03		9.19E-03	5.02E-04	1.29E+00	3.89E-04	8.12E+01	6.18E-06

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-32. Baseline Dose and Hazard Quotient Results for the Cormorant for Western Bayside 2005 Subsurface

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF			
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00			
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit			
Constituent	**Exposure Point Sediment Conc.**	**Invert Conc.**	**Fish Conc.**	**Calculated Dose**	**NOAEL TRV**	**NOAEL HQ**	**LOAEL TRV**	**LOAEL HQ**	
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless	
Antimony	9.11E-02		7.38E-04	1.38E-04	NA	NA	NA	NA	
Arsenic	4.33E+00		5.52E-01	3.47E-02	5.91E+00	5.88E-03	2.36E+01	1.47E-03	
Cadmium	3.25E-01		8.91E-03	8.36E-04	9.27E-02	9.02E-03	1.89E+01	4.42E-05	
Chromium	5.74E+01		8.83E-01	1.10E-01	2.82E+00	3.90E-02	1.65E+01	6.65E-03	
Copper	2.21E+01		1.78E+00	1.21E-01	2.79E+00	4.34E-02	6.93E+01	1.74E-03	
Lead	1.95E+01		3.37E-01	3.94E-02	2.55E-02	1.55E+00	1.01E+01	3.88E-03	
Mercury	2.82E-01		7.13E-02	4.19E-03	4.32E-02	9.70E-02	1.99E-01	2.10E-02	
Nickel	4.22E+01		2.19E-01	5.75E-02	1.69E+00	3.41E-02	6.96E+01	8.26E-04	
Silver	2.00E-01		6.31E-03	5.59E-04	NA	NA	NA	NA	
Zinc	5.29E+01		1.81E+01	1.04E+00	1.92E+01	5.43E-02	1.92E+02	5.43E-03	
Total PCB	**2.98E-02**		**9.29E-02**	**5.09E-03**	**1.04E-01**	**4.88E-02**	**1.26E+00**	**4.03E-03**	
Total 4,4-DDx	3.07E-03		1.40E-02	7.65E-04	7.76E-03	9.86E-02	6.65E-01	1.15E-03	
alpha-Chlordane	1.36E-04		3.23E-04	1.78E-05	4.11E+00	4.33E-06	2.05E-01	8.65E-05	
Dieldrin	2.34E-04		3.47E-04	1.92E-05	9.15E-02	2.09E-04	1.03E+00	1.85E-05	
Endosulfan II	1.25E-04		7.62E-06	5.50E-07	NA	NA	NA	NA	
Endrin Aldehyde	**1.43E-04**		**3.86E-06**	**3.64E-07**	**NA**	**NA**	**NA**	**NA**	
***gamma*-Chlordane**	**1.45E-04**		**1.15E-05**	**7.85E-07**	**4.11E+00**	**1.91E-07**	**2.05E+01**	**3.82E-08**	
Total PAH (12)	2.52E+01		5.48E-01	5.70E-02	NA	NA	NA	NA	
Total LPAH (6)	3.30E+00		2.61E-01	1.78E-02	NA	NA	NA	NA	
Total HPAH (6)	2.20E+01		4.80E-01	4.98E-02	NA	NA	NA	NA	
Tributyl Tin	1.17E-03		1.00E-02	5.46E-04	1.29E+00	4.23E-04	8.12E+01	6.73E-06	

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-33. Reference Dose and Hazard Quotient Results for the Comorant

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.30E-01		7.53E-03	1.41E-03	NA	NA	NA	NA
Arsenic	9.50E+00		1.21E+00	7.62E-02	5.91E+00	1.29E-02	2.36E+01	3.23E-03
Cadmium	3.30E-01		9.04E-03	8.48E-04	9.27E-02	9.15E-03	1.89E+01	4.49E-05
Chromium	8.10E+01		1.25E+00	1.55E-01	2.82E+00	5.51E-02	1.65E+01	9.39E-03
Copper	4.10E+01		3.31E+00	2.24E-01	2.79E+00	8.05E-02	6.93E+01	3.24E-03
Lead	2.40E+01		4.15E-01	4.85E-02	2.55E-02	1.90E+00	1.01E+01	4.78E-03
Mercury	4.00E-01		1.01E-01	5.94E-03	4.32E-02	1.37E-01	1.99E-01	2.98E-02
Nickel	7.90E+01		4.11E-01	1.08E-01	1.69E+00	6.38E-02	6.96E+01	1.55E-03
Silver	3.00E-01		9.48E-03	8.40E-04	NA	NA	NA	NA
Zinc	1.07E+02		3.67E+01	2.11E+00	1.92E+01	1.10E-01	1.92E+02	1.10E-02
Total PCB	1.10E-02		3.43E-02	1.88E-03	1.04E-01	1.80E-02	1.26E+00	1.49E-03
Total 4,4-DDx	4.30E-03		1.96E-02	1.07E-03	7.76E-03	1.38E-01	6.65E-01	1.61E-03
alpha-Chlordane	1.30E-04		3.09E-04	1.70E-05	4.11E+00	4.14E-06	2.05E-01	8.27E-05
Dieldrin	1.30E-04		1.92E-04	1.06E-05	9.15E-02	1.16E-04	1.03E+00	1.03E-05
Endosulfan II	NA		NA	NA	NA	NA	NA	NA
Endrin Aldehyde	NA		NA	NA	NA	NA	NA	NA
gamma-Chlordane	5.00E-05		3.98E-06	2.71E-07	4.11E+00	6.59E-08	2.05E+01	1.32E-08
Total PAH (12)	1.07E+00		2.33E-02	2.42E-03	NA	NA	NA	NA
Total LPAH (6)	1.94E-01		1.54E-02	1.05E-03	NA	NA	NA	NA
Total HPAH (6)	1.07E+00		2.33E-02	2.42E-03	NA	NA	NA	NA
Tributyl Tin	3.80E-03		3.26E-02	1.78E-03	1.29E+00	1.38E-03	8.12E+01	2.19E-05

Highlighted cells = HQ > 1

Table E-34. Baseline Dose and Hazard Quotient Results for the Surf Scoter for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF		
Value	100.00%	0.00%	1.10E+00	8.40E-02	2.30E-03	1.00E+00		
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit		

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.28E-01	5.07E-02		6.00E-03	NA	NA	NA	NA
Arsenic	7.89E+00	2.55E+01		2.05E+00	5.43E+00	3.78E-01	2.17E+01	9.46E-02
Cadmium	**1.81E-01**	**2.50E-01**		**2.04E-02**	**8.53E-02**	**2.39E-01**	**1.74E+01**	**1.17E-03**
Chromium	**9.65E+01**	**5.30E+01**		**4.44E+00**	**2.59E+00**	**1.71E+00**	**1.52E+01**	**2.92E-01**
Copper	**4.65E+01**	**1.66E+01**		**1.42E+00**	**2.56E+00**	**5.55E-01**	**6.37E+01**	**2.23E-02**
Lead	**2.79E+01**	**2.02E+00**		**2.20E-01**	**2.34E-02**	**9.40E+00**	**9.33E+00**	**2.36E-02**
Mercury	**3.24E-01**	**6.00E-02**		**5.48E-03**	**3.98E-02**	**1.38E-01**	**1.83E-01**	**2.99E-02**
Nickel	6.57E+01	3.59E+01		3.01E+00	1.55E+00	1.94E+00	6.40E+01	4.70E-02
Selenium	**6.81E-01**	**3.00E+00**		**2.41E-01**	**2.30E-01**	**1.05E+00**	**9.28E-01**	**2.60E-01**
Silver	**4.72E-01**	**2.70E-01**		**2.26E-02**	**NA**	**NA**	**NA**	**NA**
Zinc	1.20E+02	1.11E+02		9.13E+00	1.77E+01	5.16E-01	1.77E+02	5.16E-02
Total PCB	**2.43E-01**	**2.25E-01**		**1.85E-02**	**9.59E-02**	**1.93E-01**	**1.16E+00**	**1.59E-02**
Total 4,4-DDx	**6.20E-03**	**1.55E-02**		**1.26E-03**	**7.14E-03**	**1.76E-01**	**6.12E-01**	**2.05E-03**
Aldrin	**3.30E-04**	**3.09E-03**		**2.48E-04**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**1.91E-04**	**8.73E-04**		**7.02E-05**	**3.78E+00**	**1.86E-05**	**1.89E-01**	**3.72E-04**
Dieldrin	**6.22E-04**	**2.00E-03**		**1.61E-04**	**8.42E-02**	**1.92E-03**	**9.51E-01**	**1.70E-04**
Endosulfan II	**3.91E-03**	**NA**		**NA**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.77E-03**	**1.50E-03**		**1.24E-04**	**2.04E+00**	**6.07E-05**	**2.04E+01**	**6.07E-06**
***gamma*-Chlordane**	**1.11E-03**	**NA**		**NA**	**3.78E+00**	**NA**	**1.89E+01**	**NA**
Total PAH (12)	**2.60E+00**	**3.08E+00**		**2.52E-01**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**8.65E-01**	**1.29E-01**		**1.21E-02**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**1.62E+00**	**2.93E+00**		**2.38E-01**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.07E-03**	**2.00E-02**		**1.60E-03**	**1.19E+00**	**1.35E-03**	**7.47E+01**	**2.15E-05**

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-35. Baseline Dose and Hazard Quotient Results for the Least Tern for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	4.50E-02	8.30E-03	0.00E+00	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.28E-01		7.51E-03	1.84E-03	NA	NA	NA	NA
Arsenic	7.89E+00		1.01E+00	2.46E-01	2.87E+00	8.58E-02	1.15E+01	2.15E-02
Cadmium	**1.81E-01**		**4.96E-03**	**1.21E-03**	**4.50E-02**	**2.69E-02**	**9.18E+00**	**1.32E-04**
Chromium	**9.65E+01**		**1.49E+00**	**3.63E-01**	**1.37E+00**	**2.66E-01**	**8.02E+00**	**4.53E-02**
Copper	**4.65E+01**		**3.75E+00**	**9.18E-01**	**1.35E+00**	**6.78E-01**	**3.36E+01**	**2.73E-02**
Lead	**2.79E+01**		**4.83E-01**	**1.18E-01**	**1.24E-02**	**9.55E+00**	**4.92E+00**	**2.40E-02**
Mercury	**3.24E-01**		**8.19E-02**	**2.00E-02**	**2.10E-02**	**9.55E-01**	**9.68E-02**	**2.07E-01**
Nickel	6.57E+01		3.42E-01	8.35E-02	8.18E-01	1.02E-01	3.38E+01	2.47E-03
Selenium	**6.81E-01**		**1.20E+00**	**2.92E-01**	**1.21E-01**	**2.41E+00**	**4.90E-01**	**5.97E-01**
Silver	**4.72E-01**		**1.49E-02**	**3.64E-03**	**NA**	**NA**	**NA**	**NA**
Zinc	1.20E+02		4.11E+01	1.01E+01	9.34E+00	1.08E+00	9.34E+01	1.08E-01
Total PCB	**2.43E-01**		**7.58E-01**	**1.85E-01**	**5.06E-02**	**3.66E+00**	**6.13E-01**	**3.02E-01**
Total 4,4-DDx	**6.20E-03**		**2.82E-02**	**6.90E-03**	**3.77E-03**	**1.83E+00**	**3.23E-01**	**2.14E-02**
Aldrin	**3.30E-04**		**1.98E-05**	**4.84E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**1.91E-04**		**4.55E-04**	**1.11E-04**	**1.99E+00**	**5.58E-05**	**9.97E-02**	**1.12E-03**
Dieldrin	**6.22E-04**		**9.21E-04**	**2.25E-04**	**4.44E-02**	**5.07E-03**	**5.02E-01**	**4.48E-04**
Endosulfan II	**3.91E-03**		**2.38E-04**	**5.82E-05**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.77E-03**		**1.33E-04**	**3.25E-05**	**1.08E+00**	**3.02E-05**	**1.08E+01**	**3.02E-06**
***gamma*-Chlordane**	**1.11E-03**		**8.83E-05**	**2.16E-05**	**1.99E+00**	**1.08E-05**	**9.97E+00**	**2.16E-06**
Total PAH (12)	**2.60E+00**		**5.67E-02**	**1.39E-02**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**8.65E-01**		**6.86E-02**	**1.68E-02**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**1.62E+00**		**3.53E-02**	**8.63E-03**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.07E-03**		**2.63E-02**	**6.43E-03**	**6.27E-01**	**1.03E-02**	**3.94E+01**	**1.63E-04**

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

Table E-36. Baseline Dose and Hazard Quotient Results for the Cormorant for Breakwater Beach

Parameter	% invertebrates	% fish	BW	IR food	IR soil	SUF
Value	0.00%	100.00%	1.67E+00	9.10E-02	1.80E-03	1.00E+00
Units	proportion	proportion	kg	kg/day dw	kg/day dw	no unit

Constituent	Exposure Point Sediment Conc.	Invert Conc.	Fish Conc.	Calculated Dose	NOAEL TRV	NOAEL HQ	LOAEL TRV	LOAEL HQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg/day)	(mg/kg/day)	unitless	(mg/kg/day)	unitless
Antimony	9.28E-01		7.51E-03	1.41E-03	NA	NA	NA	NA
Arsenic	7.89E+00		1.01E+00	6.34E-02	5.91E+00	1.07E-02	2.36E+01	2.68E-03
Cadmium	**1.81E-01**		**4.96E-03**	**4.65E-04**	**9.27E-02**	**5.02E-03**	**1.89E+01**	**2.46E-05**
Chromium	**9.65E+01**		**1.49E+00**	**1.85E-01**	**2.82E+00**	**6.56E-02**	**1.65E+01**	**1.12E-02**
Copper	**4.65E+01**		**3.75E+00**	**2.55E-01**	**2.79E+00**	**9.14E-02**	**6.93E+01**	**3.68E-03**
Lead	**2.79E+01**		**4.83E-01**	**5.64E-02**	**2.55E-02**	**2.22E+00**	**1.01E+01**	**5.56E-03**
Mercury	**3.24E-01**		**8.19E-02**	**4.81E-03**	**4.32E-02**	**1.11E-01**	**1.99E-01**	**2.41E-02**
Nickel	6.57E+01		3.42E-01	8.94E-02	1.69E+00	5.31E-02	6.96E+01	1.29E-03
Selenium	**6.81E-01**		**1.20E+00**	**6.59E-02**	**2.50E-01**	**2.64E-01**	**1.01E+00**	**6.53E-02**
Silver	**4.72E-01**		**1.49E-02**	**1.32E-03**	**NA**	**NA**	**NA**	**NA**
Zinc	1.20E+02		4.11E+01	2.37E+00	1.92E+01	1.23E-01	1.92E+02	1.23E-02
Total PCB	**2.43E-01**		**7.58E-01**	**4.16E-02**	**1.04E-01**	**3.99E-01**	**1.26E+00**	**3.29E-02**
Total 4,4-DDx	**6.20E-03**		**2.82E-02**	**1.54E-03**	**7.76E-03**	**1.99E-01**	**6.65E-01**	**2.32E-03**
Aldrin	**3.30E-04**		**1.98E-05**	**1.43E-06**	**NA**	**NA**	**NA**	**NA**
***alpha*-Chlordane**	**1.91E-04**		**4.55E-04**	**2.50E-05**	**4.11E+00**	**6.09E-06**	**2.05E-01**	**1.22E-04**
Dieldrin	**6.22E-04**		**9.21E-04**	**5.08E-05**	**9.15E-02**	**5.56E-04**	**1.03E+00**	**4.92E-05**
Endosulfan II	**3.91E-03**		**2.38E-04**	**1.72E-05**	**NA**	**NA**	**NA**	**NA**
***gamma*-BHC**	**1.77E-03**		**1.33E-04**	**9.15E-06**	**2.22E+00**	**4.13E-06**	**2.22E+01**	**4.13E-07**
***gamma*-Chlordane**	**1.11E-03**		**8.83E-05**	**6.01E-06**	**4.11E+00**	**1.46E-06**	**2.05E+01**	**2.92E-07**
Total PAH (12)	**2.60E+00**		**5.67E-02**	**5.89E-03**	**NA**	**NA**	**NA**	**NA**
Total LPAH (6)	**8.65E-01**		**6.86E-02**	**4.67E-03**	**NA**	**NA**	**NA**	**NA**
Total HPAH (6)	**1.62E+00**		**3.53E-02**	**3.67E-03**	**NA**	**NA**	**NA**	**NA**
Tributyl Tin	**3.07E-03**		**2.63E-02**	**1.44E-03**	**1.29E+00**	**1.11E-03**	**8.12E+01**	**1.77E-05**

Bold text indicates constituent is above background
Highlighted cells = HQ > 1

E.6 QUALITATIVE EVALUATION OF HARBOR SEAL EXPOSURE TO SEDIMENTS AT ALAMEDA POINT

The Pacific harbor seal (*Phoca vitulina richardsi*) is a nonmigratory, fairly common inhabitant of coastal waters throughout the northern seas of the world (Orr, 1972; Jameson and Peeters, 1988). In contrast to the more gregarious sea lions and elephant seals of the California coast, harbor seals form smaller groups, from a few to more than hundred individuals (Zeiner et al., 1990). Increases in harbor seal populations have been documented in many areas on the West Coast of the United States. The San Francisco Bay population appears to be stable, but not growing (Kopec and Harvey, 1995). Concern about the causes of the flat growth trajectory of the San Francisco Bay population has led to investigations of human disturbance, including habitat destruction, direct interference, and chemical pollution (e.g., Harvey and Torok, 1994; Kopec and Harvey, 1995; She et al., 2000).

Harbor seals have been proposed by regulatory agencies as assessment endpoints for ecological risk assessments being conducted by the Navy in San Francisco Bay for the following reasons:

- Concerns about the health of the San Francisco Bay harbor seal population;
- Harbor seals are long-lived, opportunistic tertiary carnivores exposed to a variety of anthropogenic chemicals in coastal habitats;
- All marine mammals have special status through the Marine Mammal Protection Act (United States Code, 1996).

Harbor seals could potentially be exposed to contaminants in sediments at Navy sediment sites such as Hunters Point Shipyard and Alameda Point via three potential exposure routes: (1) dermal exposure while at haul-outs, (2) incidental ingestion of sediment while foraging, and (3) ingestion of prey that have accumulated contaminants from sediments. Other major exposure routes include exposure across the placenta before birth, and through milk during lactation (Law, 1996). Neither of these exposure routes is pertinent to sediment issues at Hunters Point or Alameda Point.

This section evaluates the potential for exposure harbor seals may have to contaminants in sediments offshore of Hunters Point Shipyard and Alameda Point via dermal exposure, incidental ingestion of sediment and through the food chain. Based on an estimate of exposure, a recommendation is made as to whether harbor seals are appropriate assessment endpoints for ecological risk assessments at these two facilities.

E.6.1 Dermal Exposure to Contaminated Sediments

Harbor seals are tied to coastal areas by their need to haul out of the water on a regular basis (Kopec, 1994). In San Francisco Bay, about 12 haul-out sites have been identified (see Figure E-1); only three sites (Mowry Slough, Yerba Buena Island and Castro Rocks) have greater than 40 individuals during the breeding and molting season. In the San Francisco Bay area, the primary harbor seal haul-out area is Mowry Slough in the extreme south bay, below the San Mateo Bridge. Mowry Slough supports the largest concentration of harbor seals in northern California during spring and summer (Harvey and Torok, 1994). The nearest consistently used haul-out area to Alameda Point and Hunters Point Shipyard is on the southern tip of Yerba Buena Island. Harbor seals haul out all year at Yerba Buena Island but it is not considered a pupping site (Kopec and Harvey, 1995); abundance of harbor seals is highest in winter months (Spencer, 1997).

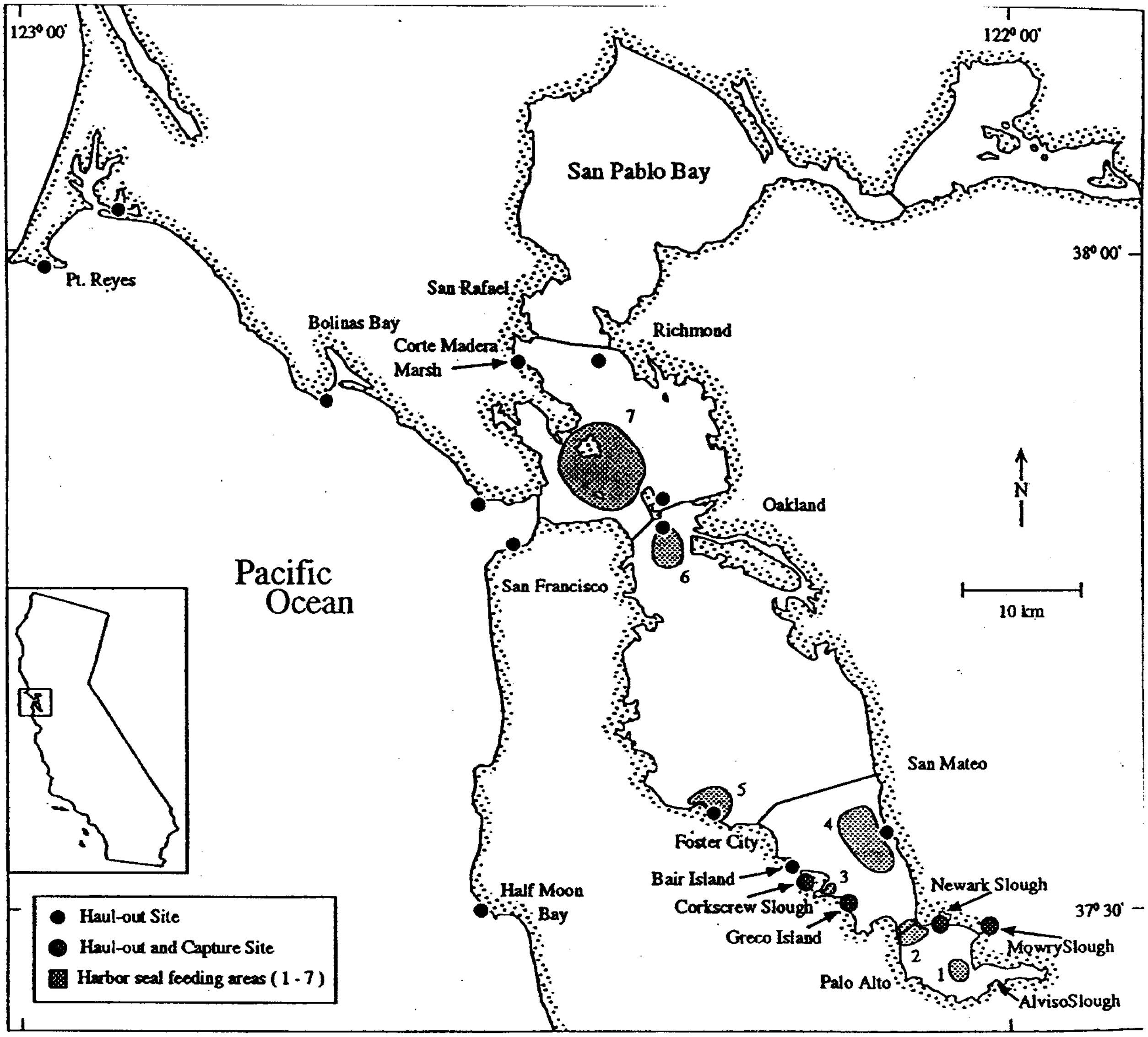

Figure E-1. Harbor Seal Haul-Out Sites and Feeding Areas in San Francisco Bay (from Harvey and Torok, 1994)

Harbor seals may infrequently haul out in other areas. In recent years, a few seals have been observed hauling out on the breakwater west of Alameda Point (Kopec, 1994). There are also incidental observations of harbor seals off of South Basin at Hunters Point Shipyard.

Exposure of seals to contaminants in sediments at their haul-out locations at Alameda Point and Hunters Point Shipyard is likely to be *de minimus*. First, very few animals are likely to be exposed because neither location is used consistently by more than a few seals. Secondly, the only potential exposure at the haul-out areas is through the skin (seals do not feed while they haul-out; they rest). However, for both inorganic and organic compounds dermal uptake is likely to be negligible. Because these compounds are likely to be sorbed to sediment (especially fine-grained sediments), desorption and uptake across the thick fur and dermis of a seal is unlikely. Therefore, dermal exposure will not be considered a significant exposure route.

E.6.2 Exposure via Incidental Ingestion of Contaminated Sediments

A radiotelemetry study was conducted by Harvey and Torok (1994) that focused on harbor seal movements and foraging behavior within San Francisco Bay. The study found that harbor seals spend a majority of their active diving time (e.g., foraging time) in localized areas of San Francisco Bay (Figure E-1). For purposes of the study, Harvey and Torok divided the San Francisco Bay Estuary into five regions, three of which were relevant to the feeding study: (1) extreme South San Francisco Bay, south of the San Mateo Bridge; (2) South San Francisco Bay, between the San Mateo Bridge and the Bay Bridge; and (3) Central San Francisco Bay, the area enclosed by the Bay Bridge, Golden Gate Bridge, and the Richmond-San Rafael Bridge. Of the seven feeding stations documented using radio-tagged individuals in the bay, only one was in the South Bay region, which is the location of Alameda Point and Hunters Point Shipyard (Feeding Station 6, south of Yerba Buena Island). Based on the location of the feeding station south of Yerba Buena Island in relation to Hunters Point Shipyard and nearshore areas of Alameda Point, it is unlikely that significant exposure to sediments from these two facilities occurs to harbor seals during foraging activities. Thus, the exposure via incidental ingestion of potentially contaminated sediments at Hunters Point Shipyard and Alameda Point is considered *de minimus*.

E.6.3 Exposure via Ingestion of Contaminated Prey

The remaining exposure route to be evaluated is ingestion of contaminated prey that have accumulated contaminants from sediments at Hunters Point Shipyard and Alameda Point. The importance of trophic transfer of compounds (especially dioxins and furans, PCBs and organochlorine compounds) as the primary mechanism of exposure to upper trophic levels (such as seals) has been discussed in U.S. EPA guidance (U.S. EPA, 1997). It has been additionally confirmed by the research focus of recent studies in San Francisco Bay (Kopec and Harvey, 1995; She, 2000).

To evaluate the potential for harbor seals to feed on fish that may have become contaminated with chemicals from sediments at Hunters Point Shipyard or Alameda, information on harbor seal prey collected by Harvey and Torok (1994) was evaluated. This is discussed further in the following sections.

Harbor Seal Diet in San Francisco Bay

Harbor seals feed on benthic and pelagic fish, crustaceans, and cephalopods. Individual seals may specialize on one prey type during a feeding session, during which a seal may consume up to 5 or 6% of its body weight in prey (Zeiner et al., 1990). Based on otoliths collected from feces, the harbor seal diet in San Francisco Bay consists of 14 species of fish (Harvey and Torok, 1994). Of the nonpiscine elements identified in the samples, only shrimp and cephalopods were represented; neither of these groups was considered by the authors to represent significant dietary contributions. Five fish species made up 93% of the diet in both total dietary mass and number of individuals. These species in order of decreasing abundance (as measured in otoliths collected from feces) are:

- Yellowfin goby (Acanthogobius flavimanus)
- Northern anchovy (Engraulis mordax)
- Pacific staghorn sculpin (Leptocottus armatus)
- Plainfin midshipman (Porichthys notatus)
- White croaker (Genyonemus lineatus)

Based on these data, it is reasonable to assume that tissue concentrations of these five species of fish represent the most reasonable potential inputs to the diet of the harbor seal. According to California Department of Fish and Game (CDFG) data reviewed in Harvey and Torok (1994), all of these fish species (except northern anchovy) were more abundant in otter trawls than in mid-water trawls, suggesting that the seals often feed on or near the bottom of the bay.

To answer the question of whether these prey fishes may play a role in food chain transfer of chemicals from Hunters Point Shipyard or Alameda Point to the harbor seal, several life history traits of the fishes and the seal must be considered. Information on the foraging behavior and movement patterns relevant to the harbor seal exposure route is presented below for the five most important fish species in the harbor seal diet.

Yellowfin Goby: Gobies tend to be a small, relatively sedentary fish that live in constructed or borrowed borrows in the sediment (Moyle, 1976). They typically prey on benthic and epibenthic invertebrates such as amphipods, ostracods, polychaetes, as well as some algae (Moyle, 1976). During the reproductive phase, they provide parental care for the eggs by guarding the burrow in which the eggs are laid. During this time they show strong site attachment (Moyle, 1976). The pelagic larvae of most gobies feed on zooplankton (Moyle, 1976); yellowfin gobies settle out of the plankton to establish residency on the bottom when they have reached a length of 15 to 20 mm. Thus, yellowfin and other gobies are assumed to be exposed to chemicals in surficial and subsurface sediment, surface water and pore water, algae, and invertebrate prey.

Due to their sedentary life style, harbor seals are unlikely to be exposed to contaminants in gobies from sediments at Hunters Point Shipyard and Alameda Point unless seals are eating gobies physically located at Hunters Point Shipyard or Alameda. In an analysis of the yellowfin goby population size structure and harbor seal diet, Harvey and Torok (1994) concluded that most yellowfin gobies in the harbor seal diet were probably taken from feeding stations in the extreme south bay, below the San Mateo Bridge, during the pupping season, and in areas north of the Bay Bridge during the nonpupping season. The south bay region, identified as the area between the two bridges, did not appear to contribute significant numbers of yellowfin goby to the harbor seal diet.

Anchovy: All life stages of the northern anchovy are highly abundant (numerically dominant) year round throughout the San Francisco Bay (Monaco et al., 1990; Emmett et al., 1991). Spawning occurs offshore; eggs and larvae are planktonic. Juveniles and adults feed both by random filtration and by biting in the plankton; prey include phytoplankton, planktonic crustaceans, and fish larvae (Emmett et al., 1991). Northern anchovies, like all of the clupeids, are pelagic throughout their lives.

Based on size and abundance measures of the northern anchovy, Harvey and Torok (1994) concluded that most anchovy in the harbor seal diet were probably taken from feeding stations below the San Mateo Bridge during the pupping season. Very few anchovy occurred in the seal diet in the nonpupping season.

Because the northern anchovy is pelagic throughout its life, and does not typically come into contact with sediment, this species is not considered a viable pathway by which contaminants in sediment at Hunters Point Shipyard and Alameda Point can be transferred to harbor seals.

Pacific Staghorn Sculpin: The Pacific staghorn sculpin is abundant in the San Francisco Bay year round, and juveniles are numerically dominant from March through June (Monaco et al., 1990). This euryhaline species can withstand rapid changes in salinity, especially during the first two years of life (Moyle, 1993). Adults are less tolerant of fresh water, and are more commonly found in lower reaches of coastal streams and in bays. Adults size ranges up to 31 cm total length, at age 3, which is about the typical life span of this sculpin (Moyle, 1976). Sculpin are demersal carnivores, taking crustaceans, worms, and other soft-bodied benthic animals.

The size range of Pacific staghorn sculpin in the diet of harbor seals in San Francisco Bay varied with the seal's reproductive season (Harvey and Torok, 1994). During the pupping season (February through June), mostly juvenile sculpin were taken, probably from the extreme south bay, according to Harvey and Torok (1994). During the nonpupping season, only adults appeared in the feces. These gobies were likely taken from areas north of the Bay Bridge, based on CDFG trawl data (Harvey and Torok, 1994). When the pupping and nonpupping data are combined for comparison to year-round CDFG data, size range of sculpin in the seal diet was similar to the general sculpin population (Harvey and Torok, 1994). In the CDFG sampling effort, most sculpin were collected in otter trawls rather than mid-water trawls. These data are consistent with the demersal foraging and movement patterns of the sculpin described in Monaco et al. (1990) and Emmett et al. (1991). The south bay region, which includes Hunters Point Shipyard and Alameda Point, did not appear to contribute significant numbers of sculpin to the harbor seal diet during either season.

Plainfin Midshipman: The plainfin midshipman is a toadfish (family Batrachoididae), characterized by a broad head, a large mouth, and a flattened body typical of benthic fishes. Midshipman are found in San Francisco Bay during the spring and summer spawning season; the rest of the year they are found offshore (Love, 1991). In San Francisco Bay, males dig nests in the intertidal zone, where they vocalize to attract females. Females spawn in one nest, males then guard the eggs and larvae for up to 45 days. Although males are fairly sedentary while in San Francisco Bay, female movement patterns are less clear.

Plainfin midshipman appeared in the seal diet primarily during the pupping season; almost all were adults, larger than 17 cm SL (Harvey and Torok, 1994). In contrast, most specimens caught in CDFG otter and mid-water trawls were juveniles, smaller than 10 cm SL. Harvey and Torok (1994) concluded that this discrepancy probably resulted from differences in the timing of collection. Seals feed primarily at night, when adult plainfin midshipmen are active. The CDFG trawls were conducted during the day, when most adult plainfin midshipman are in burrows but juveniles are actively swimming. Because of this lack of correlation between the seal fecal samples and the CDFG trawl results, no conclusions about location of plainfin midshipman capture were drawn by Harvey and Torok (1994). Based on this uncertainty, the potential for plainfin midshipman exposed to contaminants in sediments at either Hunters Point Shipyard or Alameda Point and preyed upon by seals at feeding stations within the Bay is unknown.

White Croaker: All life stages of white croaker are generally encountered, but not in large numbers, in San Francisco Bay year round (Monaco et al., 1990). Spawning occurs in the Central San Francisco Bay in the spring. Eggs are pelagic; larvae live on or near the sediment (Emmett et al., 1991). Adults mature at around 12 cm SL. Juvenile croaker leave the bay in the fall, then return the following spring (SFEI, 1999). Juvenile croaker may feed in the water column, but become benthic omnivores as they mature. Typical prey of adults includes pelagic species such as northern anchovy and squid, as well as benthic organisms such as polychaetes and clams; detritus and carrion are also taken (SFEI, 1999; Emmett et al., 1991).

Adult croaker, ranging in size from 16 to 28 cm SL, were consumed by harbor seals during the pupping season; very few croaker appeared in feces during the nonpupping season. Juvenile and adult croaker were collected in CDFG otter and mid-water trawls, indicating that the seals were selectively feeding on adult croaker. The presence of croaker in both mid-water and otter trawls confirms that white croaker are associated with benthic and pelagic habitats. Based on the size distribution of croaker in CDFG trawls, Harvey and Torok (1994) concluded that the most likely point of capture of croakers by harbor seals is in mid-water areas south of the San Mateo Bridge. All croaker otoliths were collected from seals in the extreme south bay, below the San Mateo Bridge (Harvey and Torok, 1994).

The white croaker is considered a good indicator of pollution and is monitored by NOAA's National Status and Trends Program (Emmett et al., 1991). This species is exposed to chemicals in prey, sediment, and water (SFEI, 1999). Levels of several chemicals in tissues of the white croaker and other sport fishes in San Francisco Bay are considered elevated with respect to human health, and fishing advisories are in place (SFEI, 1999). However, because croakers are fairly mobile while in the Bay, contaminant body burdens are likely due to exposure integrated over large areas rather than small specific locations.

E.6.4 Conclusions

Three potential exposure routes of contaminants from sediments at Hunters Point Shipyard and Alameda Point to harbor seals were evaluated: (1) dermal exposure while at haul-outs, (2) incidental ingestion of sediment while foraging, and (3) ingestion of prey that have accumulated contaminants from sediments. Exposure via the dermal route and incidental ingestion of sediments was concluded to be insignificant. Ingestion of contaminated prey is likely to be the most significant exposure route to seals. A review of the behavior of the fish that comprise more than 90% of the harbor seal diet in San Francisco Bay concluded that fish are either (1) sufficiently sedentary that they are unlikely to be exposed to sediments at Hunters Point Shipyard or Alameda Point *and* preyed upon by seals at known feeding stations, or (2) sufficiently mobile that their exposure to contaminated sediments is integrated over large areas of San Francisco Bay.

Based on this pathways analysis, contribution of potential contaminants in sediment at Hunters Point Shipyard and Alameda Point to the regional status of the harbor seal is considered to be minimal. Thus, harbor seals are not recommended as appropriate assessment endpoints. Additionally, a quantitative evaluation of exposure and effects for harbor seals at Hunters Point Shipyard and Alameda Point is not recommended at this time.

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APPENDIX F

RESPONSE TO AGENCY COMMENTS

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Draft Response to U.S. EPA Comments on the Draft Final Site Inspection Report, Western Bayside and Breakwater Beach, Alameda Point, Alameda, California, August 2007 Comments received September 27, 2007 from Ms. Xuan-Mai Tran

U.S. EPA General Comment: *Concentrations of several metals, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and 4,4-DDT exceeded the respective ecological sediment effects range-median screening criteria (ER-Ms), but the Draft Final Site Inspection Report, Western Bayside and Breakwater Beach (the Draft Final SI) recommends no further action (NFA) for both areas. This was based on the conclusion for each area that the risks calculated in the human health risk assessment and the baseline ecological risk assessment were acceptable. The recommendation for NFA could be strengthened by stating (if true) that sedimentation will gradually cover areas where concentrations exceed ER-Ms. Please revise the recommendations to include a brief discussion of sedimentation and the likelihood that this will minimize the potential for exposure to sediment at these sites.*

Navy Response to General Comment: During the most recent sampling events at each site (2005 for Western Bayside and 2002 for Breakwater Beach), surface sediment concentrations for all inorganic and organic constituents were below the ER-M values at both Western Bayside and Breakwater Beach, except for nickel where site concentrations were less than ambient. The no action recommendations based on the human health and ecological risk assessments are further strengthened when all years of surface sediment data are considered. Many analytes at these sites were detected at very low concentrations or were non-detect (see Section 4.0 of the Draft Final Site Inspection Report), so much of the nature and extent summary in the "Conclusions and Recommendations" Section 8.0 of the Draft Final Site Inspection Report, particularly Section 8.2.1, focused on comparison to ambient conditions rather than the ER-M values. Sections 4.2.5, 4.3.5, 8.1.1, and 8.2.1 in the Final Site Inspection Report were revised and clarified, and text comparing the site concentrations to the ER-M values was added. The Executive Summary Data Characterization section also was clarified, but less detail was added than in the Summary Sections 8.1.1 and 8.2.1.

Concentrations of inorganic and organic constituents in sediments at Western Bayside and Breakwater Beach support the multiple lines of evidence for the no action recommendation in the Draft Final Site Inspection Report. Based on these data, it is not necessary to revise the text to specify that sedimentation will gradually cover areas where concentrations exceed ER-M values. A summary of site concentrations relative to ER-M values follows for both sites.

During the most recent 2002 sampling event at Breakwater Beach, surface sediment concentrations for all inorganic and organic constituents were below the ER-M values, except for nickel where site concentrations were less than ambient concentrations. For Breakwater Beach surface sediment data from all years of sampling (1996, 1998, and 2002), surface sediment concentrations for all inorganic and organic constituents were below the ER-M values, except for nickel where site concentrations were less than ambient concentrations. In subsurface data collected at Breakwater Beach, no ER-M values were exceeded for inorganic constituents, except for nickel, where site concentrations were less than ambient concentrations. In subsurface data collected at Breakwater Beach, no ER-M values were exceeded for organic constituents except for Total PCBs at one location, where the site concentration in subsurface sediment at a depth of 75 to 180 cm was 210 μg/kg compared to the ER-M of 180 μg/kg.

During the 2005 sampling event at Western Bayside, surface sediment concentrations for all inorganic and organic constituents were below the ER-M values, except for nickel where site concentrations were less than ambient concentrations. For Western Bayside surface sediment data from all years of sampling (1993/1994, 1996, and 2005), all inorganic constituents were below the ER-M values, except for nickel, where nickel site concentrations were less than ambient concentrations, and in the1993/1994 data set for mercury at one location, where the site concentration was 0.847 mg/kg compared to the ER-M of 0.71 mg/kg. It should be noted that antimony concentrations in the 1993/1994 data set were determined to be erroneous. For Western Bayside surface sediment data from all years of sampling, all organic constituents were below the ER-Ms, except for 4,4'-DDT in 1996 at one location, where the site concentration was 11 μg/kg compared to the ER-M of 7 μg/kg. The subsurface data were compared to the ER-M values in the "Conclusions and Recommendations" Section 8.1.1 in the Draft Final Site Inspection Report, so this text is not re-stated here.

U.S. EPA Response to Human Health Risk Assessment (HHRA) Response to Comment 3: *In general, the response to this comment pertaining to surface water exposure is adequate. However, please consider qualitatively accounting for direct contact with surface water as a potentially viable exposure pathway in Section 7 (Uncertainty). Such a qualitative discussion may include an assessment of the relative risks potentially incurred by a recreational user via contact with surface water and the degree to which the exclusion of this exposure pathway is likely to impact the total quantitative point estimate of risk and hazard.*

Please also clarify that direct contact with surface water is a potentially complete but insignificant exposure pathway to address this issue and the following discrepancies:

- *Executive Summary, page v, which states, "Direct contact with surface water was identified as a complete pathway..."*
- *Section 5.2.1 (Exposure Pathways and Receptors), page 5-3, which states, "Direct contact with surface water was identified as an incomplete pathway..."*
- *Human Health Conceptual Site Models presented in Figures 5-1 (for Western Bayside) and 5-2 (for Breakwater Beach), which identify incidental ingestion and dermal contact as "incomplete pathways" (with dashed arrows), but also "complete but minimal exposure pathways" (with white circles) for the recreational user.*

Navy Response to HHRA Comment 3: Section 7.3.2 (Exposure Assessment) of the Uncertainty Section was updated to include the following bullet:

- "Direct contact with surface water is a complete but insignificant exposure pathway. Surface water is not a media of concern based on non-detect results from surface water sampled at Western Bayside for organics and dissolved metals and other criteria (Section 2.3.1.3). Therefore, exclusion of this pathway is unlikely to impact the total quantitative estimate of risk and hazard at these sites."

In response to other points in this comment, text was revised as detailed below.

Executive Summary, page v, which states, "Direct contact with surface water was identified as a complete pathway, but water is not considered a primary exposure medium..."

- No change

Section 5.2.1 (Exposure Pathways and Receptors), page 5-3, which states, "Direct contact with surface water was identified as an incomplete pathway..."

- Revised to "Direct contact with surface water was identified as a **complete** pathway, **but** water is not considered a primary exposure medium...

Human Health Conceptual Site Models presented in Figures 5-1 (for Western Bayside) and 5-2 (for Breakwater Beach), which identify incidental ingestion and dermal contact as "incomplete pathways" (with dashed arrows), but also "complete but minimal exposure pathways" (with white circles) for the recreational user.

- Figures 5-1 and 5-2 were clarified by replacing the dashed arrows (incomplete pathway) from surface water to the potential exposure routes with dotted arrows (minor pathway).

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Comment No.	Comment	Response
General Comments From Ms. Xuan-Mai Tran, U.S. EPA (Dated May 8, 2007)		
1	The finding of no further action in the Draft Site Inspection Report Western Bayside and Breakwater Beach (the SI Report) at this time is premature since the nature and extent of contamination have not been adequately evaluated or discussed. In addition, the detected contaminants have not been associated with likely contaminant sources. For example: The site conception model indicates that the contaminant sources that contribute to sediment contamination are the discharge of contaminated groundwater and historical wastewater and stormwater discharges from the outfalls, but there is no discussion of how the distribution of contamination is related to the outfalls or to areas where groundwater is discharged. The data collected most closely to the outfalls and to the shoreline at the Western Bayside site were collected during a 1996 sampling event. Since the 1996 data generally has the highest concentration of many pesticides and some Aroclors, the outfalls may be the source of this contamination. Alternatively, groundwater discharge and direct transport in run-off from the Sites 1 and 2 landfills may be the source of some of this near-shore contamination, but this is not discussed. For example, this may be the source of the maximum concentration of mercury south of Landfill 2, since groundwater appears to discharge in this area during some seasons. These possible correlations should be discussed. Please revise the SI Report to include discussions of the distribution of contamination in relation to the location of the outfalls and to groundwater discharge areas. In addition, please consider whether	The results from the sampling at Western Bayside and Breakwater Beach show that the sites have been adequately characterized to support the site inspection recommendation of no further action. A summary of additional supporting information to address other details of U.S. EPA's comment follows. Section 2.3.1.1 Potential Sources of Contamination specifies "Potential sources of contamination to environmental media at Western Bayside include contaminated groundwater discharges impacted by historical onshore activities at IR Sites 1 and 2 and historical wastewater and storm water discharge". Section 4 of the SI Report, which describes the nature and extent of contamination relative to screening values and ambient concentrations, does not describe potential contaminants relative to specific sources because the analytical results do not support this type of discussion. With such low site concentrations, it is not considered appropriate to speculate on correlation with particular potential sources. Results of human health and ecological risk assessments, described in Sections 5 and 6 of the Draft SI Report, also show that no chemicals of potential concern pose an unacceptable risk. A brief summary of sediment concentrations from Section 4 of the Draft SI report follows. As stated in Section 4.2.5 of the Draft SI report, for inorganic constituents, "only chromium and antimony were statistically greater than ambient conditions and only when 1993/1994 data were included in the data sets. In surface sediments, no inorganic constituents exceeded ambient concentrations during the 2005 sampling event except for silver at one location, which was less than the ER-M. In the subsurface sediment, no ER-Ms were exceeded for inorganic constituents, except for nickel, which was less than the ambient concentration."

Comment No.	Comment	Response
	contamination from these sources may have been spread by currents or longshore drift. Similarly, throughout the text it is suggested that the fact that the 2005 data has lower contaminant concentrations is assumed to be an indication that these constituents do not pose a threat; however the fact that each of the 2005 sample locations are much farther from the outfall then the earlier sampling events alone could be the rationale for the lower concentrations. At the Western Bayside area the 2005 samples were collected at a distance of 500 to 600 feet beyond the outfalls. Therefore the 2005 data defines the lateral extent of contamination to the west and south of the Western Bayside area; but the extent to which this area is contaminated between these bounding data points (2005) and the outfalls has not been delineated. Please discuss this data gap in the text. Further, the co-location of elevated detections of the anti-fouling metal additives arsenic, copper, mercury, and zinc (and common constituents of industrial and marine paints like lead and polychlorinated biphenyls [PCBs] that were used in the 1930s through 1960s) should be evaluated, since it is possible that disposal of used sandblast abrasive in the landfills or along the Sites 1 and 2 berms may have been the source of this contamination. Please revise the text of the SI Report to discuss whether elevated concentrations of the anti-fouling additives and constituents of paint are co-located. In addition, please evaluate whether other chemicals that were detected at elevated concentrations from the same location are related to historical Alameda	For organics (All Years), Section 4.2.5 of the Draft SI report states "only Total PCBs and 4,4'-DDT exceeded their respective ER-M values at only one location each. In surface sediment, no pesticides, PCBs, or PAHs exceeded the ER-Ms during the 2005 sampling event. In the subsurface sediment, Total PCBs and Total 4,4-DDx did not exceed ER-Ms, but several PAHs did exceed ER-Ms." Please note that Total PCBs were incorrectly calculated using ½ the detection limits for non-detected Aroclors in the draft report, so the maximum Total PCBs concentrations are even lower. Section 4.2.5 was revised to add the following observations at the end of the section. "The 2005 sampling stations that are located adjacent to onshore groundwater monitoring wells did not detect locally elevated or unacceptable concentrations of contaminants of potential concern (COPCs), indicating that groundwater is not playing a significant role in contaminating offshore sediments. In addition, there is no indication that discharges, runoff, or groundwater has resulted in contaminant levels in offshore sediments that pose an unacceptable risk (see Sections 5 and 6)." The reviewer stated that 1996 data collected close to the outfalls and shoreline have the highest concentrations of many pesticides and some Aroclors. This is not correct, and a detailed explanation for both Aroclors and pesticides follows. It is possible that the reviewer was confused by Table 4-1 and the bubble plots which incorrectly included Total PCBs calculated using sums that included ½ detection limits for non-detected Aroclors. Corrected Table 4-1 and figures were included in the Draft Final SI report, and corrected figures for Total Aroclors are attached to these

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Point industrial activities (e.g., waste water discharge) or to disposal in the landfills.
The table below provides a list of chemicals that should be retained for consideration and included in the discussions specified above.
<table>
<tr><th>Chemical of Concern</th><th>Most recent Data Not Proximal to Outfalls</th><th>Exceeds Ecological Screening Criterion</th><th>Exceeds ER-M Criterion</th></tr>
<tr><td colspan="4">Western Bayside</td></tr>
<tr><td>Antimony</td><td>x</td><td>x</td><td>x</td></tr>
<tr><td>Arsenic</td><td>x</td><td>x</td><td></td></tr>
<tr><td>Chromium</td><td>x</td><td>x</td><td></td></tr>
<tr><td>Copper</td><td>x</td><td>x</td><td></td></tr>
<tr><td>Mercury</td><td>x</td><td>x</td><td></td></tr>
<tr><td>Nickel</td><td>x</td><td>x</td><td>x</td></tr>
<tr><td>Total 4,4-DDx</td><td></td><td>x</td><td></td></tr>
<tr><td>Alpha Chlordane</td><td></td><td>x</td><td></td></tr>
<tr><td>Dieldrin</td><td></td><td>x</td><td></td></tr>
<tr><td>Gamma Chlordane</td><td></td><td>x</td><td></td></tr>
<tr><td>Aroclor 1254</td><td>x</td><td>x</td><td></td></tr>
<tr><td>Aroclor 1260</td><td>x</td><td>x</td><td></td></tr>
<tr><td>4,4-DDD</td><td></td><td>x</td><td></td></tr>
<tr><td>4,4-DDE</td><td></td><td>x</td><td></td></tr>
<tr><td>4,4-DDT</td><td></td><td>x</td><td>x</td></tr>
<tr><td>Benzo(a)anthracene</td><td></td><td>x</td><td></td></tr>
<tr><td>Benzo(a)pyrene</td><td></td><td>x</td><td></td></tr>
<tr><td>Benzo(g,h,i)perylene</td><td></td><td>x</td><td></td></tr>
<tr><td>Benzo(k)fluoranthene</td><td></td><td>x</td><td></td></tr>
<tr><td>Chrysene</td><td></td><td>x</td><td></td></tr>
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RTCs as figures RTC 1 and 2. Seven Aroclors were measured in the 1993/94 and 1996 data sets. There is no reason to believe that these non-detected Aroclors are present in sediments. Given the detection limits for non-detected Aroclors are higher than the detected values of Aroclors that are present, adding ½ of these DLs for the non-detected Aroclors creates a false picture of the distribution of PCBs. It should be noted that the RMP and BPTCP programs calculate total PCBs using detected constituents, and that this practice is not unique to the Navy.
Only two Aroclors were detected in 1996 samples collected at Western Bayside: Aroclors 1254 and 1260. The maximum surface sediment concentration in 1996 samples of Aroclor 1254 and Aroclor 1260 was 27 ppb, at station WB001. WB001 is north of outfall EE, and stations closer to that outfall WB002 and WB003 had lower concentrations of Aroclor 1260, and no detects of 1254.
Analytical results were provided in Appendix A of the Draft SI report.
It is also possible that the box plots of individual pesticides led the reviewer to incorrectly conclude that pesticides were elevated in 1996. Box plots included non-detected values for pesticides at ½ their reported DL, and plotted these values as open circles in the plots. What these figures show is that detection limits were somewhat elevated in 1996, not detected concentrations. Two stations in 1996 contained DDx (WB-001 and WB-018), and only one 1996 sample (WB-018) had any other detected pesticide: alpha chlordane, which was the highest concentration of this pesticide detected in any year, but was considerably less than the ER-M. All other pesticides were not detected in 1996 samples.
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	(table below)	Based on this analysis of individual pesticides and Aroclor data, there is no pattern of elevated concentrations of these constituents adjacent to outfalls. To further evaluate Total PCBs, see Figures RTC-1 and 2 (attached to this RTC). The highest value, 144.5 ppb is associated with the sum of detected Aroclors in 1993/94 at Station B-04, which is located between outfalls EE and GG. This concentration is below the ER-M of 180 ppb. The highest Total PCB measurement observed in 2005 based on congener data was 45 ppb, at station WBC-19, which is located close to B-04. The SI report was revised to specify no ER-M exceedances for Total PCBs. The comment regarding the location of the 2005 sampling locations at Western Bayside, at least in part, appears to be based on an incorrect depiction of Western Bayside sample locations in Figure 3-1 that made it appear that 2005 samples were much further off-shore than they were. The 2005 locations were in accordance with the Final Offshore Sediment Study Work Plan (Battelle et al., 2005), which explains in detail the basis for the design of the 2005 sampling event (see page 45, DQO Step 7). The design was not intended to resample previously sampled locations, as there was no clear indication in historical sampling efforts that unacceptable levels of contaminants were present. Instead, the design was intended to fill data gaps identified at Western Bayside by systematically placing samples along the Western Bayside shore line between 75 and 150 ft from shore, and adding samples at specific points to include those adjacent to groundwater monitoring wells, adjacent to a culvert, and two samples at the northern extent of the site. Section 3.3.1, page 51 of the Final Work Plan outlines the locations of the samples relative to the potential contaminant sources. The minutes of the work plan comment resolution teleconference

Chemical of Concern	Most recent Data Not Proximal to Outfalls	Exceeds Ecological Screening Criterion	Exceeds ER-M Criterion
Dibenzo(a,h)anthracene		x	
Fluoranthene		x	
Indeno(1,2,3-cd)pyrene		x	
Acenaphthene		x	
Anthracene		x	
Fluorene		x	
Total PCBs		x	x
Breakwater Beach			
Arsenic	x	x	
Chromium	x	x	
Copper	x	x	
Lead	x	x	
Mercury	x	x	
Nickel	x	x	x
Silver	x	x	
Zinc	x	x	
Dieldrin		x	
Gamma Chlordane		x	
Aroclor 1254		x	
Aroclor 1260		x	
Benzo(a)anthracene		x	
Benzo(a)pyrene		x	
Benzo(g,h,i)perylene		x	
Benzo(k)fluoranthene		x	
Chrysene		x	
Fluoranthene		x	
Indeno(1,2,3-cd)pyrene		x	
Pyrene		x	
Acenaphthene		x	
Anthracene		x	
Fluorene		x	
Total PCBs		x	x
Total 4,4-DDx		x	

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		attended by U.S. EPA Project Manager Mr. Mark Ripperda, U.S. EPA Mr. Ned Black, and representatives of DTSC, DHS, RWQCB, and California F&G are provided in Appendix E of the Final Work Plan. The minutes and Mr. Ripperda's input documented therein show the U.S. EPA concurrence on the sampling locations. The Navy concurs with the regulatory agencies previous input that the sampling locations address all data gaps related to the nature and extent of contamination at Western Bayside and Breakwater Beach. By locating stations approximately 75 ft from shore, fine-grained sediments would be sampled, rather than sampling the rip-rap shoreline where coarser sediments had previously been observed. Coarse sediments are less likely to sorb contaminants, and therefore, generally have lower concentrations than fine-grained sediments. Given this design, there are very few 2005 samples collected near previous sampling locations, and therefore, conclusions about temporal trends can only be made in a general sense, recognizing that the differences observed could be due to sample location and not changes in contaminant concentrations over time. Figure 3-1 was corrected in the Draft Final SI report, and the Draft Final SI report text has been reviewed and updated, if necessary, to make sure that any statements about temporal trends are not misleading. The reviewer requested that the Navy look at collocated concentrations of As, Cu, Hg, and Zn (antifouling agents), and PCBs and Pb (paint constituents). While these constituents, several of which are naturally occurring, were detected in some of the same stations, none were detected at elevated concentrations, as discussed previously in this RTC and in the Draft SI report. Concentrations of the analytes in the reviewer's table were presented relative to ambient concentrations and the ER-M in Section 4 of the Draft SI report and were evaluated in the

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		human health and ecological risk assessments. The SI data clearly show that concentrations in sediment are not posing an unacceptable risk, so the SI report recommendation is no further action for this site.
2	The rationale for the selection, processing and use of various background sources throughout this document is unclear. The first concern is that it appears that three different ambient data sets were combined for some analytes. Before combining these data sets, it should be ascertained that the data are statistically similar enough to be considered one population for each analyte, but there is no indication in the SI Report that this analysis has been done. The second concern is that contamination that originates from Alameda Point may have contributed to elevated ambient contaminations, particularly since reference site location RL03 was in the Western Bayside Area. Without this potential contribution from the site, the ambient or background chemical concentrations may be lower. Please revise the SI Report to include an evaluation of whether the ambient data sets represent a single population for each analyte. Also, please indicate which data sets were included for each chemical, and whether any outliers were discarded from the ambient data. Also, please discuss why it is appropriate to include RL-3 in the ambient data set and provide the data for this location for comparison to the other Western Bayside data.	The ambient values used in the Draft SI report are those developed by the San Francisco Bay Water Board (1998), as described in Section 4.1.2. The cited document, entitled "Ambient Concentrations of Toxic Chemicals in Sediments", summarizes the statistical approach for the determination of ambient threshold values using the combined RMP and BPTCP dataset (San Francisco Bay Water Board, 1998). A complete description of the statistical methods used in the development of the ambient thresholds can be found in Smith and Riege (1998). These ambient data have been consistently used to evaluate all Alameda offshore sediment data, and care has been taken to compare coarse and fine-grained sediments at each site to coarse and fine-grained ambient sediments. The text in Section 4.1.2 of the Draft Final SI report has been updated as follows: "Regulatory guidance from the San Francisco Bay Water Board established ambient threshold values (ambient background values) for the ambient concentrations of toxic chemicals in San Francisco Bay sediments (San Francisco Bay Water Board, 1998). **A complete description of the statistical methods employed in the development of these ambient threshold values can be found in Smith and Riege (1998).** The ambient threshold concentrations were calculated from analytical chemistry results of sediments collected from the least impacted portions of San Francisco Bay, located away from point and non-point sources of chemical contamination. **All stations sampled by RMP and BPTCP near potential sources of contamination were excluded. The list of stations classified as ambient and used in the**

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		calculation of ambient threshold values were published in Table 2 of the regulatory guidance (San Francisco Bay Water Board, 1998). The only chemical for which two separate thresholds were calculated was chromium for which a difference between RMP and BPTCP concentrations was detected and was attributed to the difference in extraction procedures. For other chemicals, differences in the extraction procedure "did not appear to noticeably affect the chemical concentrations" (Smith and Riege, 1998). To maintain consistency with the protocol established in the regulatory guidance, the data used in plots and background comparisons to represent ambient conditions were from the combined set of stations classified as ambient, with the exception of chromium for which the data with the comparable extraction method were used."
3	The legend for the bubble plots for the Western Bayside figures indicate than an asterisk represents the location of outfalls along the shore line, but there is only one outfall indicated on the map along the northern shore of the Alameda Point. There are three outfalls (Outfalls labeled EE, GG and HH on Figure 3-1) located along the western shoreline of the Western Bayside and three outfall (labeled outfalls U, T and S on Figure 3-1) located along the southern shoreline of the Western Bayside study area, that are not shown on these figures. Since the site conceptual model indicates that discharge from outfalls is the potential source of contamination, it is difficult to assess if the nature and extent of contamination has been adequately determined using these bubble plots when the outfalls are not shown. Please include all outfall locations on each bubble plot. Similarly, each of the bubble plots for Breakwater Beach	The bubble plots for Western Bayside and Breakwater Beach were revised to depict outfall locations at each site.

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	does not have the seven outfalls as shown on Figure 3-2 (labeled M, N, O, P, Q, Q1, and ZZ). Please include all outfall locations on each bubble plots.	
4	The Bubble Plots for the Breakwater Beach Area do not extend far enough east to include Outfall Q or sampling location BB027. Please extend each of the Breakwater Beach bubble plots to show Outfall Q and sampling location BB027.	Sediment chemistry measurements were not collected at location BB027. This was one of four locations (BB022, BB023, BB024, and BB027) where mussels were sampled during the 1996 Follow-on Ecological Assessment (PRC, 1996a) (see Section 3.1.2 of the Draft SI report). Therefore, the scale of the bubble plots for Breakwater Beach was not expanded to include this sampling location.
Specific Comments from Ms. Xuan-Mai Tran, U.S. EPA (dated May 8, 2007)		
1	**Executive Summary, Site Setting, Western Bayside, Page i; Section 1.2.1, Western Bayside, Page 1-2; Section 8.1, Western Bayside, Page 8-1; and Figure 1-2, Location Map of Offshore Areas at Alameda Point:** There is a discrepancy between the description of Western Bayside in the text compared to Figure 1-2. The text states that the length of the site is 1.1 miles and includes the offshore areas west of IR Site 1 and 2 and south of IR Site 2, but the scale on Figure 1-2 appears to indicate that the distance along the shoreline is more than 2 miles in length. Please resolve this discrepancy. Also, it would be helpful to include a delineation of the boundaries of the Western Bayside site on the map, since the width of the site is not discussed in the text other than as a reference to water depth. Please provide site boundary delineation for Western Bayside on Figure 1-2.	The north-south length of Western Bayside is 1.1 miles, and it includes the offshore areas west of IR Sites 1 and 2 and south of IR Site 2, as indicated in the text and on Figure 1-2. However, the 2005 offshore sampling also included four samples (WBC-1 through WBC-4) in the area historically referred to as the South Shore. This is an offshore area between the eastern boundary of IR Site 2 and IR Site 17 (Seaplane Lagoon) where three historical samples (SS001, SS002, and SS006) were collected in 1996. The South Shore area was included as part of Western Bayside for the Draft SI Report, and as a result, extends the southern portion of Western Bayside to include the offshore area between IR Site 2 and Seaplane Lagoon. The description of Western Bayside was updated in the Draft Final SI Report to include this information. In addition, site boundaries for Western Bayside were added to Figures 1-2 and 3-1.
2	**Section 1.2.2, Breakwater Beach, Page 1-2 and Figure 1-2 Location Map of Offshore Areas at Alameda Point:** The western extent of the Breakwater Beach is not clear from the text or the figure. Please provide a clear description of the	The Draft Final SI report was updated to include a more detailed description of Breakwater Beach, including the western extent of this site. In addition, site boundaries for Breakwater Beach were added to Figures 1-2 and 3-2.

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	western extent of this site and include the boundaries of this site on Figure 1-2.	
3	**Section 2.1.2, Breakwater Beach, Page 2-2:** The last sentence of this paragraph indicates that "... it is unlikely that much, if any, sediment has been transported away from the beach area." This conclusion is an over-simplification since beaches are dynamic environments and that significant sediment is transported seasonally and during storm events. Please remove this statement from the text, or provide evidence to support this conclusion.	The second part of the last sentence in Section 2.1.2, which indicates that it is unlikely that much, if any, sediment has been transported away from the beach area, was deleted from the Draft Final SI report.
4	**Section 2.3.1.3, Exposure Media, Page 2-4 and 2.3.2.3 Section, Exposure Media, Page 2-5**: In these sections, the argument is made that chlorinated and non-chlorinated solvents are not a chemical of potential concern (COPC) because their transitory nature in water would preclude the solvents from reaching the sediments. Since the conceptual model for IR Site 1 indicates that COPCs are discharged in groundwater to San Francisco Bay, there is a potential that the volatile organic compounds (VOCs) can be sorbed to sediment, due to the high organic content of sediments in this environment. Chlorinated and non chlorinated solvents should be retained as chemicals of concern, due to the potential sorption of VOCs to organic rich sediment. Please retain VOCs as COPCs.	The referenced chemicals were not identified as chemicals of potential concern (COPC) based on evaluation conducted during previous investigations, which indicated very low concentrations in sediments (Battelle et al., 2000), and as documented in the approved Final Offshore Sediment Study Work Plan (Battelle et al., 2005). A teleconference was held with the regulatory agencies to resolve agency comments on the work plan, and there was concurrence on the work plan, which specified that VOCs are not COPCs. The text of the Draft Final SI report was updated to include this supporting information and references.
5	**Section 2.3.2.2, Transport Mechanism, Page 2-4:** It is unclear why the text in the "Food Chain Transport" paragraph states that "sediment characteristics are similar between Breakwater Beach and Western Bayside," when text in Section 2.1.1 indicates that most sediment at Western Bayside is coarse grained (less than 40 percent fines) and text in Section 2.1.2 indicates that much of the sediment	Section 2.1.1 of the Draft SI report indicates that surface sediments at Western Bayside "within 50 – 75 ft of shore were largely coarse grain (less than 40 percent fines), with finer grain sediments in samples beyond this distance from shore". Section 2.1.2 states that sediments at Breakwater Beach are "coarser grained along the shoreline and finer grained further offshore (between 43 and 84 percent fines)". Therefore, both sites contain a mix of coarse- and fine-grained sediments, and it is

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	offshore and east of the marina at Breakwater Beach is fine grained. Please resolve this discrepancy.	expected that benthic organisms found at Breakwater Beach are similar to those found at the other offshore areas. The text in Section 2.3.2.2 was updated to clarify that both sites contain a mixture of coarse- and fine-grained sediment.
6	**Section 3.1.1, Western Bayside, Page 3-2, and Section 4.1.1, Data Preparation, Pages 4-1 and 4-2:** It is unclear why the 2005 study is "considered best representative of the site," when this study did not include sampling locations near the outfalls or along the shoreline where contaminants would be transported in longshore drift. The 2005 data is representative of conditions several hundred feet off-shore. Please delete the quoted statement or revise it to state that the 2005 data is most representative of conditions several hundred feet offshore.	This comment apparently is based on an incorrect depiction of Western Bayside sample locations in Figure 3-1 that made it appear that 2005 samples were much further off-shore than they were. The 2005 sampling locations were 75 – 100 ft offshore, not several hundred feet from shore. This map was corrected, and it should be noted that the locations on the bubble plots in Appendix A of the Draft SI report were all plotted correctly and show the relative positioning of 2005 data points. As stated in Section 3.1.1, and reiterated in the response to U.S. EPA General Comment #1, the 2005 sampling design was intended to fill data gaps, better define the vertical extent of contamination, and evaluate potential migration of contaminants from onshore locations. The sampling locations were intentionally placed further offshore than the 1996 study to ensure that the Navy would not bias the results by taking too many coarse-grained samples, which, based on the 1996 study, were those closer to shore. Coarse-grained sediments typically have lower contaminant concentrations than locations with finer-grained sediments, due to their higher surface area and tendency to adsorb contaminants. The 2005 sampling design represented the entire area using a modified systematic sampling scheme. Modifications resulted in a higher density of samples placed offshore from IR Site 1 groundwater monitoring wells, with five stations placed as close to shore as possible. In addition, a sample was taken across from the IR Site 2 culvert and off the tip of IR Site 1. Please refer to the Offshore Sediment Study Work Plan (Battelle et al., 2005) and field summary

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		reports for more details. The statement was revised to state that the 2005 data are considered a good overall representation of current site conditions.
7	**Section 4.1.1, Data Preparation, Page 4-2:** The fifth bullet point on this page refers to the application of zero for non-detects as consistent with the methods used by the State Water Resources Control Board (SWRCB) when calculating total PCB estimates for ambient conditions within San Francisco Bay. Please provide the specific citation for the use of this method by the SWRCB.	On page 9 of the San Francisco Bay Water Board document "Ambient Concentrations of Toxic Chemicals in Sediments," April 1998, in the Section entitled "Treatment of Censored Data (Non-detects)", it states: *"In the database, all concentrations less than the analytical detection limit were recorded as a value of zero."* By checking totals reported by the San Francisco Bay Water Board, it was confirmed that non-detects were treated as zeros. The specific Water Board reference was added to Section 4.1.1 of the Draft Final SI report.
8	**Section 4.1.1, Data Preparation, Page 4-3:** In the first bullet point on this page it indicates that the skeet range data was not included in this analysis because the area is being addressed separately, however this data should be included in an additional analysis of all data including the skeet data because the constituents that were analyzed for during the skeet range area investigation apply to the Western Bayside investigation area. The exclusions of this data is not appropriate as it was collected within the area of concern. Please consider including the skeet data in an additional analysis which would include the "all data" analysis plus the skeet data.	IR Site 29 (Skeet Range) data were evaluated, and these data were not included in the risk assessment to avoid bias that results from including a high density of results from one small area for those constituents that were measured (i.e., PAHs and lead). If these results were included when calculating means and UCLs for risk evaluations, assumptions required to estimate these summary statistics would be violated, resulting in an under or over-estimation of the calculated parameters. It should also be noted that the IR Site 29 study found no further action was required to address lead or PAHs at the site. The description of the Skeet Range data in Section 4.1.1 in the Draft Final SI report was modified to explain the rationale for not including these data in the Western Bayside dataset. Please also note that DTSC (HERD) Specific Comment 6 states DTSC's agreement with exclusion

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		of these data.
9	**Section 4.1.2, Ambient Sediment Data Preparation, Page 4-5:** It is unclear if the Alameda and Hunter's Pont sites are appropriate to be used for background/ambient, since a comparison of this data with the Bay Protection and Toxic Hot Spots Cleanup Program (BPTCP) and San Francisco Estuary Institute (SFEI) Regional Monitoring Program (RMP) data has not been done and it has not been demonstrated that all of the data in these three data sets represent a single population for each chemical. If more than a single population is observed, an explanation is needed and it is possible that that data set was impacted by other sources of contamination. Please revise the SI Report to compare the reference site data with the BTPCP and SFEI ambient data, demonstrate that these data sets represent a single population for each chemical represented and discuss whether the reference site data is appropriate for use as ambient data.	Section 4.1.2 was corrected in the Draft Final SI report to indicate that the ambient data set reflects RMP and BPTCP stations. These ambient data have been consistently used to evaluate all Alameda offshore sediment data, and care has been taken to compare coarse and fine-grained sediments at each site to coarse and fine-grained ambient sediments.
10	**Section 4.1.3.1, Sediment Chemistry Box Plots, Page 4-5 and Appendix A, Summary of Analytical Data:** It is unclear why box plots have been presented for constituents whose data set consists entirely of non-detects. A box plot of analytical non-detects is not informative. Please delete the box plots of all constituents that contain only non-detects.	Including constituents that were not detected helps the reader to know that a plot was not simply omitted. Since the plots were generated and included in the Draft SI report, they remain in Appendix A of the draft final report, for completeness. This U.S. EPA comment is noted for future reports at other sites.
11	**Section 4.1.3.1, Sediment Chemistry Box Plots, Page 4-5 and Appendix A, Summary of Analytical Data:** In the second paragraph of this section the box plots are described as plotting each sampling event separately and next to a plot of all ambient data, however the plot that appears on the far right is identified as background. The terms "ambient" and	The box plots were revised to note that these are ambient data. Ambient data include the RMP and BPTCP data. If only a subset of these data were plotted (for reasons already discussed), the legend indicates which data set the ambient data came from (e.g., BPTCP or RMP).

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	"background" are not interchangeable. Since the term "background" implies sediments that have not been impacted by contaminant releases or by non-point source anthropogenic activity (e.g., urban runoff) and sediment in San Francisco Bay has been impacted by urban runoff, industrial discharges, maritime discharges, releases from mining in the Sierras and in the Bay Area, San Francisco Bay sediment data cannot be considered "background;" instead, data from the BPTCP, SFEI and reference sites should be considered "ambient." For consistency, please revise the text and figures to use the term "ambient" to refer to the BPTCP/SFEI/reference site data. Also it appears from the description of the box plots in the text that the plot on the far right side of the graph could represent any or all of the identified sources identified in this document as potential background. Please clearly identify the source of each of the "ambient" plots on the figures and in the text and appendices of the SI Report.	
12	**Section 4.2.1.1, Distributions of Inorganic Constituents in Surface Sediments, Page 4-8:** This section indicates that it is unknown why the concentrations as detected in 1993/1994 were high, and the text provides various potential rationales for this disparity with subsequent samples, however the reasons identified in the text neglect the most likely explanation, namely that the concentrations were the highest during the 1993 and 1994 sampling events because some of these samples were collected near outfalls. Although some subsequent data was collected closer to the shoreline, this data is not closer to the outfalls, which are the likely source of sediment contamination according to the site conceptual	The 1993/1994 samples were not collected closest to the outfalls; the 1996 samples were collected at and closest to the outfalls. Review of the 1993/94 bubble plots shows there is no pattern suggesting that higher concentrations were associated with stations adjacent to outfalls. Therefore, adding this explanation would not be appropriate based on the data. The Navy agrees that finer grain sizes could explain the observed differences. The first bullet was modified to explain the significance of finer grained sediments (larger surface area provides a greater area for contaminants to sorb to).

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	model. Further, the text does not explain the significance of the grain-size difference, specifically that contaminants are more likely to sorb to fine-grained sediment. Please revise the list of explanations to include proximity to the outfalls and also revise the text of the first bullet to explain the significance of the finding that the 1993/1994 samples were finer-grained that samples collected in subsequent events.	
13	**Section 4.2.2.1, Distribution of Organic Constituents in Surface Sediment, Page 4-9:** It is unclear why the text in the last paragraph states that the 2005 samples were collected in close proximity to the 1993/1994 sample locations when an examination of Figure 3-1 indicates that very few of the 2005 samples were collected in the vicinity of the 1993/1994 samples. It appears that the sampling locations were at least 100 or more feet apart, which cannot be considered "close proximity." Please delete the quoted statement from the text or provide evidence (e.g., GPS coordinates) that demonstrate that the 2005 samples were collected within 10 feet of the 1993/1994 samples.	This comment appears, at least in part, to be based on the incorrect sampling locations on Figure 3-1 in the draft report. Figure 3-1 was corrected in the Draft Final SI report. The reviewer also may have misread the text in the draft report, since it is misquoted in this comment. The Draft SI report states that "Concentrations [of TBT] in the 1993/94 samples were much higher than concentrations reported in 2005 samples, **even when the 2005 samples were taken in close proximity to the 1993/94 sample locations**." The second half of this sentence is based on examination of the bubble plot (Figure A-214). The Navy agrees that samples are not collocated (not within 10 feet); however, there are two locations where samples are "relatively close": WBC-6 is relatively close to B11, and WBC-19 and WBC-18 are both relatively close to B04. In both areas, the 2005 sample(s) were closer to shore than the 1993 samples and were much lower (3 – 23 times lower) in concentration (see bubble plot figure A-214 in Appendix A). The SI report text was revised to add "**relatively**" prior to "close" so there is not confusion about collocation of samples.
14	**Section 4.2.5, Summary of Western Bayside Sediment Data, Page 4-11:** It is unclear why the text indicates that only 1993/94 data were included in the data sets. Conclusions from the 1996 data should also be included,	Data from all years, including 1996, were summarized in Section 4.2.5 of the Draft SI report. Section 4.2.5 of the Draft SI report states that "Concentrations of inorganic constituents at Western Bayside were not markedly elevated, as evidenced by the fact that only chromium and

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	since the 1996 sampling locations were in close proximity to the outfalls and also included samples collected along the shoreline that could indicate whether discharge of contaminated groundwater impacted sediment. Please revise the summary to include an assessment of the 1996 data.	antimony were statistically greater than ambient conditions, and **only when 1993/94 data were included in the data sets**." Therefore, when All Years (including 1993, 1996, and 2005) were statistically compared to ambient for both chromium and antimony, the tests showed a significant difference. The reviewer's concern that 1996 values may be higher than 1993 or 2005 due to proximity to outfalls is not correct. When only 2005 data were used, there was no significant difference for any metal (see Table 4-4 for statistical comparisons with ambient). Values in 1996 were lower (chromium) or roughly the same (antimony) as 2005 samples. Examination of the box plots sheds some light on these constituents. Figure A-1 (Appendix A) clearly shows that antimony was only elevated in 1993, and as previously discussed, these values were likely erroneous. Figure A-2 (Appendix A) shows a similar pattern for chromium. To clarify, the text was revised to indicate that chromium and antimony were only significantly different from ambient when data from All Years were included, and that a review of the box plots clearly shows that it is only the 1993 measurements that appear elevated relative to ambient.
15	**Section 4.3.2.2, Distribution of Organic Constituents in Subsurface Sediment, Pages 4-12 and 4-13:** The text does not state that Total PCBs in subsurface sediment exceeded the ER-M. Since the previous section, for surface sediment, includes a comparison of analytes to ER-M values, the discussion of subsurface sediment should also discuss constituents that exceeded their respective ER-M values. Please revise the text to include a discussion of constituents that exceeded ER-M values.	The text in Sections 4.2.2.2 (Western Bayside) and 4.3.2.2 (Breakwater Beach) of the Draft Final SI report were revised as follows to specify whether there were any organic constituents in subsurface sediment that exceeded ER-Ms. Section 4.2.2.2 was revised as follows: "Concentrations of PAHs were generally higher in the 5-25 cm depth interval than in the surface sediment (Figure 4-12), and were greatly elevated at this depth interval at location WBC-**19, where a few individual PAHs exceeded their ER-Ms at this depth.** The reasons

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		for the elevated PAHs in the subsurface sediment at this location are not clear. Total PCB concentrations appeared to increase slightly with depth, as shown in Figure 4-13, **but detected concentrations of Total PCBs did not exceed ER-M at any station or depth.** Total DDx concentrations are relatively uniform across depths, while tributyl tin concentrations generally decrease with depth. **4-4'DDT exceeded its ER-M at one location (WBC-22) in the 25 – 50 cm layer.** Six pesticides other than the DDx compounds were detected in one or more subsurface samples, **but these pesticides did not exceed ER-M thresholds."** Section 4.3.2.2 was revised as follows: "It should be noted that the subsurface samples at Breakwater Beach represent a greater depth interval than Western Bayside subsurface samples, with Breakwater Beach subsurface samples extending from 75 - 180 cm below the sediment surface. **Total PCBs were detected in subsurface sediments at three stations (BB001, BB005, and BB004), but exceeded the ER-M value only at BB004. No other organic constituents exceeded ER-Ms in subsurface sediment.**"
16	**Table 4.1 and 4-2, Summary of Chemical Concentrations for Western Bayside, and Tables 4-5 and 4-6 Summary of Chemical Concentrations for Breakwater Beach:** It would be helpful if the location of the maximum concentration was listed for each of the sampling events. Please include the location of each maximum concentration for each analyte listed in these tables.	In the Draft SI report, Tables 2.1 and 2.2 in Appendix D2 (Western Bayside) and Appendix D3 (Breakwater Beach) summarize the occurrence and distribution (including location of the maximum observed values) of chemicals of potential concern in sediment and shellfish tissue. In addition, the bubble plots in Appendix A depict the maximum value for surface sediments each study site. Some incorrect values in Tables 4-1, 4-5, and 4-6 were corrected in the Draft Final SI report.
17	**Section 6.4.4.1, Western Bayside, Least Tern, Page 6-31 and Section 6.4.4.2, Breakwater Beach, Least Tern, Page 6-34:** The site use factors for the least tern were estimated for both sites based on percent of time observed, versus	A detailed description of how the foraging range information for the least tern was collected can be found on page 6-15 of the Draft SI report. This section has been revised as follows to include more detail on how the amount of time birds spent in each section was obtained:

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	spatial extent. No information is provided to detail the amount of time the sites were examined to arrive at the percentages provided in the document (57.4% and 3.8%, respectively). Please revise the SI Report to clarify how these figured were obtained (e.g., number of hours per 24-hour period that sites were observed).	"Foraging data compiled from 10 years of foraging studies at Alameda Point were used to develop an estimate of the foraging range of the least tern (Bailey, 1984, 1985, 1986, 1988, 1990a, 1990b, 1992; Collins and Feeney, 1993, 1995) at Western Bayside and Breakwater Beach. Terns nesting at Alameda Point forage around the Point and all along the entire south shore of Alameda, from the breakwater west of Seaplane Lagoon to the Elsie B. Roemer Sanctuary and beyond to Tidal Pond at the northwest end of the Oakland Airport (Collins and Feeney, 1993) (Figure 6-5). However, the area adjacent to Alameda Point had the highest usage by terns, and the focus of all studies was on the foraging distribution around the Point. Figure 6-5 delineates the main study areas around Alameda Point. **Observers scanned the waters of each station for least terns and noted the numbers and activities of all least terns observed including foraging, transit flight, courtship, roosting, and bathing. Each observation set consisted of 8 one-minute scans at each location. Each observation set was repeated on a number of dates during the nesting season (see Collins, 1995 for more detail). The percent of the year's total foraging time spent in any one station was then calculated as the total number of minutes that terns were observed foraging at each station over the total minutes foraging at all stations during the nesting period.** Table 6-2 summarizes 10 years of foraging data on least terns around Alameda Point. As can be seen from Table 6-2 and Figure 6-5, the majority of the time the terns fed off the south-western side of Alameda Point in Areas 7, 8, and 9, which encompass Western Bayside. Based on a 10 year mean, least terns were observed to spend approximately 57.44 % of the year's total foraging time in the area around Western

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		Bayside (Table 6-2). Area 1 (on Figure 6-5) includes Breakwater Beach, where least terns were seen foraging approximately 3.8% of the time (Table 6-2)."
18	**Section 6.4.4.1, Western Bayside, Reference Fish Forage, Page 6-32:** Reference forage fish tissue concentrations were estimated using Equation 6-7, which include data obtained from both the investigative sites and the reference locations. Given this approach, it appears that the resulting dose values represent cumulative values, versus actual reference location dose values. Please revise the SI Report to include additional discussion on this approach, or revise the dose formula to include only data from reference location to estimate reference forage fish tissue concentration.	Reference forage fish concentrations were not estimated using Equation 6-7. As explained in Section 6.4.3.1 (Page 6-29), forage fish tissue concentrations at both the sites (Western Bayside and Breakwater Beach) and at reference locations were estimated by multiplying sediment concentrations in these locations by bioaccumulation factors (BAFs). The BAFs used were specific to Alameda Point and were developed by whole-body forage fish tissue concentrations and sediment concentrations from Seaplane Lagoon. These BAFs were then multiplied by the 95% upper confidence limit (UCL) of the sediment concentration for a particular contaminant for each site and reference data to model forage fish tissue concentrations. Equation 6-7 was then used to develop a dose to a piscivorous avian receptor, assuming that a portion of their exposure came from the site and a portion from reference locations. To ensure that it is clear that the refined dose calculation is independent from the estimation of reference forage fish tissue concentrations, a subheading entitled, "Refinement of Dose Calculation" was inserted on Page 6-32 before Equation 6-7.
19	**Section 8.1, Western Bayside, Page 8-1:** It is unclear why the text states that there are only 3 outfalls in the Western Bayside area when 6 outfalls are shown on Figure 3-1. Please resolve this discrepancy.	Historically, Western Bayside has been the offshore area west of IR Sites 1 and 2 and south of IR Site 2. There are three outfalls located within the Western Bayside area. However, the 2005 offshore sampling also included four samples (WBC-1 through WBC-4) in the area historically referred to as the South Shore. This is an offshore area between the eastern boundary of IR Site 2 and IR Site 17 (Seaplane Lagoon), and includes three outfalls (outfalls S, T, and U). The South

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		Shore area was included as part of Western Bayside for the Draft SI Report, and as a result, extends the southern portion of Western Bayside to include the offshore area between IR Sites 2 and 17. The description of Western Bayside was updated in the Draft Final SI Report to include this information, thus resolving the discrepancy regarding the number of outfalls at Western Bayside.
20	**Table 4.1 Page T-6, and Table 4.2 Page T-9:** The footnote (h) states that "Upper-bound estimate of nearshore ambient as recommended by U.S. EPA, 2004b." EPA proposed 200 ug/kg as a cleanup goal for Total PCB at Seaplane Lagoon, not as representative of ambient. Please revise this footnote.	The footnote was revised to reference the San Francisco Bay Water Board, who indicated that this value was based on an approximate upper level of ambient PCB concentrations in the nearshore environment (San Francisco Bay Water Board, 2005). The reference to the U.S. EPA document in footnote (h) was replaced in the Draft Final SI report with the correct citation for the San Francisco Bay Water Board communication (San Francisco Bay Water Board, 2005).
21	**Appendix A, Bubble Plot of Aroclors and PAHs in Western Bayside and Breaker Beach:** The figures for the Aroclors indicated that there is no effects range median (ER-M) for however the ER-M listed in the National Oceanic and Atmospheric Administration *Screening Quick Reference Table: Organics* (1999) for PCBs can be used as a conservative ER-M. Please use 180 micrograms per kilogram as the ER-M for all aroclor figures. Similarly the low molecular weight (LMW) polynuclear aromatic hydrocarbons (PAHs) and the high molecular weight (HMW) PAHs can use the ER-M values from this table. Please use 3160 for LMW PAHs and 9600 for HMW PAHs.	The bubble plots in Appendix A for PCBs based on Aroclors were revised to include the 180 µg/kg ER-M. ER-Ms for L-PAH (7) (3160 µg/kg) and H-PAH (6) (9600 µg/kg) also were added.
Comments on the HHRA from Ms. Xuan-Mai Tran, U.S. EPA (dated May 8, 2007)		
1	It does not appear that laboratory reporting limits were compared to human health screening levels (i.e., USEPA	The Human Health Risk Assessment Section 5.1, Data Evaluation and Identification of Chemicals of Concern, was revised in the Draft Final

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	Region 9 Preliminary Remediation Goals [PRGs]) to determine whether the former were sufficiently sensitive for use in development of a site-specific COPC list. A discussion should be included to indicate that all non-detect results were reviewed to ensure that the associated reporting limit was sufficiently sensitive (in comparison to the most relevant health-based screening criterion) to ascertain whether or not the contaminant at issue was present at a concentration capable of eliciting an adverse human health effect. Non-detect results associated with an elevated reporting limit (e.g., a sample quantitation limit [SQL], rather than a method detection limit [MDL]) should identify that associated target analyte as a site COPC. Please revise the SI Repot to include a comparison of laboratory reporting limits with the PRGs and identify target analytes as site COPCs based on elevated reporting limits.	SI as follows (revisions in bold): "The first step of the human health risk assessment process is an evaluation of the available data to: (1) characterize the site, (2) develop a data set for use in the risk assessment, and (3) identify chemicals of potential concern (COPCs). For the human health risk assessment, the All Years sediment data set described in Section 4.1.1 and the 28-day *M. nasuta* bioaccumulation data were evaluated to identify COPCs. Analytes that were detected at least once in sediment in any year **(1993/94, 1996, and 2005 for Western Bayside; 1996, 1998, and 2002 for Breakwater Beach)** or in *M. nasuta* tissue **(1993/94 at Western Bayside or 1998 for Breakwater Beach)** were selected as COPCs; only those analytes that were never detected in both media were eliminated from consideration. **As a result of this COPC screen, endosulfan I, endosulfan sulfate, and endrin were eliminated as COPCs for Western Bayside, and *alpha*-BHC, endosulfan I, endosulfan sulfate, endrin, endrin aldehyde, and heptachlor were eliminated as COPCs at Breakwater Beach. The non-detect sediment results for these contaminants were reviewed to verify that the associated detection limit was sufficiently sensitive, in comparison to U.S. EPA preliminary remediation goals (PRG) (2004), to ascertain whether or not these contaminants were present at concentrations capable of eliciting an adverse human health effect. The maximum sediment detection limits reported for these pesticides were all well below U.S. EPA's industrial PRGs (Tables 4-1 and 4-5).** As described in Section 4.5.2, **two approaches were used to calculate EPCs for *M. nasuta* tissue. Analytes that were detected in historical *M. nasuta* tissue data were used to calculate tissue EPCs. However, many of the organic compounds were non-detect, and detection limits were elevated. Therefore, for analytes detected in sediment,**

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		but not detected in historical site-specific tissue, EPCs were modeled by multiplying the sediment EPCs by a BAF."
2	Food-related ingestion pathways may represent significant potential exposure to COPCs (such as PCBs), due primarily to bioaccumulation potential and food chain impacts. Based on local survey data (compiled by the San Francisco Estuary Institute [SFEI]) which indicate that children under the age of six are unlikely to consume shellfish, this report attempts to minimize the impact of and potential for ingestion exposure attributable to children. Arguments to support exclusion of child exposures based on small exposed population sizes are not relevant given that the pathways associated with these exposures are reasonable and complete. No controls exist to preclude the exposure of children based on ingestion of sport-caught fish. This risk evaluation should present an assessment of the baseline condition, assuming children are exposed. An associated uncertainty analysis may be presented to address the likelihood of these exposures. Please revise the human health risk evaluation (HHRE) to address shellfish ingestion by children. Additional routes, such as infant exposure to PCBs via the ingestion of mother's breast milk, also may be considered viable pathways of exposure. This pathway has not been considered in the Conceptual Site Model (Figures 5-1 through 5-2. Human Health Conceptual Site Model for Western Bayside and Human Health Conceptual Site Model for Breakwater Beach, respectively). Addition of this pathway to the quantitative analysis does not appear to be critical. However, please consider adding a qualitative assessment of the associated potential risk to a nursing infant	The risk assessment was conducted based on data from studies of shellfish consumption in the Bay area considered representative of the surrounding populace that indicate low probability of exposure for children; this approach is also consistent with previously conducted risk assessments at Alameda and other bases. In addition, because of the longer exposure duration and higher consumption rate used for adult RME, it is expected that for shellfish, the adult would be protective of children. Based on estimates of sport fish consumption from the 2002 SFEI study, only 13% of the San Francisco Bay anglers interviewed reported that they share their catch with children under the age of six. Given that only 5% of the overall seafood consumption among San Francisco Bay anglers is comprised of shellfish (Wong, 1997), it can be assumed that less than 1% (i.e., 0.65%) of Bay-area children under the age of six may be consuming shellfish from San Francisco Bay. Overall, there is a low probability of child exposure (with respect to intake amounts and frequency of exposure); as such, this pathway is considered a potentially complete but insignificant exposure route. In addition, this approach is consistent with the methodology used at other Navy sites (i.e., Seaplane Lagoon at Alameda Point and Hunter's Point), where children under the age of six were unlikely to consume shellfish, and risks to children were calculated for sediment and fish exposures only. Section 7.3.2 of the Draft Final SI report was revised to include a full description of the uncertainty of the shellfish consumption exposure parameters, including those for children and pregnant and breastfeeding women.

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	to the Uncertainty Analysis (Section 7).	
3	Exposure via contact with surface water is not addressed in the HHRE. Although exposures via surface water may not represent the most significant pathways of exposure, the reasoning underlying the elimination of this potential pathway of exposure is insufficient (i.e., rapid dilution of chemicals resulting from tidal action and currents in addition to activities related to shellfish collection would occur at low tide, further limiting contact with surface water). However, by eliminating the inclusion of this potentially complete exposure pathway, such as dermal contact with surface water due to wading and/or shellfish collection, the resulting risks for a recreator at Westside Bayside and Breakwater Beach may be underestimated. Recreational user exposures to surface water in this type of scenario are a common component of risk evaluations advanced under the auspices of USEPA programs. A complete assessment of recreational exposures should incorporate an assessment of risk due to direct and indirect exposure to all potentially contaminated media, including the surface water. The HHRE should address the potential for surface water exposures within the risk characterization and uncertainty sections. Such characterization may be limited to a qualitative discussion. If off-site receptors are indeed considered a plausible exposure scenario, please modify the CSM to capture exposures incurred by off-site receptors such as a recreator (who may be a beach user or shellfish collector). Please revise the SI Report to include this characterization.	The discussion of surface water not being considered a primary exposure medium has been revised to include a more detailed rationale for each of the three points (see below). Surface water is not considered a primary exposure medium in accordance with the approved final work plan, which states "Surface water is not considered a significant exposure medium due to tidal action and San Francisco Bay currents, which result in rapid dilution. Consequently, exposures via surface water are not proposed for quantitative evaluation." In accordance with this comment, the following additional information was added to Section 2.3.1.3 (Exposure Media) of the Draft Final SI report. (1) Primary chemicals of potential concern (metals, pesticides, PAHs, and PCBs, discussed further in Section 4.0) are relatively insoluble, meaning that partitioning from sediment to surface water will be low. Hydrophobic, nonpolar organic contaminants, such as PCBs and DDT, and some species of metals are primarily associated with sediments and tend to adsorb to fine-grained sediment, which is present in portions of Western Bayside and Breakwater Beach. Adsorption onto sediment particles limits the degree to which dissolution and contamination of overlying water occurs. The transport and fate of these contaminants are controlled by the movement of the sediment particles. (2) Potential continuing onshore sources of surface water to the offshore areas have been controlled. The storm sewer system at Alameda Point, designated as IR Site 18, served as a primary transport route for chemicals from industrial operations and for surface water runoff to reach the offshore sites. In 1975, the direct discharge of industrial wastewater through the storm sewer network was terminated, and a

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		pollution prevention program was initiated. In 1991, the Navy initiated several removal actions, designed to remove residual contaminated sediments from the sewer lines. In Phase I of the removal action, sediments and debris were vacuumed from the storm-sewer catch basins; Phase II of the removal action included cleaning the system lines, including those associated with the outfalls at Western Bayside (EE, GG, HH, S,T, U) and Breakwater Beach (M, N, O, P, ZZ, Q1, Q) (Tetra Tech EM, Inc. [TtEMI], 2000). The effectiveness of these actions was documented through closed circuit television surveys, and a technical memorandum was issued in February 2000 that removed Site 18 as a specific IR site (DON, 2000). (3) Tidal action and San Francisco Bay currents result in rapid dilution and/or transport of constituents. Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/1994 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996b) and are summarized in Table 7-9 of that report. Total metals concentrations (Tables D-3.1 and D-3.2 in PCR, 1996b) were below detection limits, with the exception of chromium and zinc, which were detected at concentrations less than aquatic life and human health ambient water quality criteria (AWQC) (U.S. EPA, 2006a; San Francisco Bay Water Board, 2007). Dissolved metals were never detected in surface water. Metals detection limits (total and dissolved) were adequate for most of the constituents to allow comparison to aquatic life (except for copper, nickel, and silver) and human health (except for arsenic) AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside (see Tables D-3.2 and 3.3 of PRC, 1996b) were all not detected, although

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		elevated detection limits preclude comparisons of most pesticides and PCBs to aquatic life AWQC. Elevated detection limits preclude comparisons of some PAHs, pesticides, and PCBs to human health AWQC. Based on these data, and as specified in the approved Final Work Plan for the Alameda offshore sites, surface water is not a significant exposure medium to chemical contaminants. In addition, Section 5.2.1 (Exposure Pathways and Receptors) of the Draft Final SI report was updated to indicate that the primary chemicals of concern are hydrophobic chemicals, which are primarily associated with sediments, and exposure to these compounds through contact with surface water are negligible compared to those in sediments. "Direct contact with surface water was identified as an incomplete pathway, and water is not considered a primary exposure medium due to the rapid dilution of chemicals resulting from tidal action and San Francisco Bay currents (**see Section 2.3.1.3 for more detail**). In addition, activities associated with shellfish collection would occur at low tide, further limiting contact with surface water. **The chemicals of concern are persistent, hydrophobic chemicals primarily associated with the sediments. As a result, water concentrations and, therefore, exposures of these compounds are negligible compared to sediments.** Consequently, exposures via surface water were not proposed for quantitative evaluation."
4	Please consult USEPA's Child-Specific Exposure Factors Handbook (ChEFH) (2006) during the selection of pertinent exposure parameter values (e.g., fish tissue ingestion rates) during deliverable development in the future.	U.S. EPA's Draft 2006 Child-Specific Exposure Factors Handbook (ChEFH) (U.S. EPA, 2006b) was recently re-opened for public comment (January 2007). It is anticipated that the final version of the handbook will be published in 2007. Battelle will consult the ChEFH for pertinent exposure parameter values in future human health risk assessments.

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5	Care should be taken to differentiate between risk and hazard, in particular, in Tables 5-5 through 5-20 and Tables 7-2 through 7-6. These terms are not interchangeable and proper terminology usage will facilitate understanding. Please use the correct terminology in the next version of the SI report.	The terminology in the human health risk assessment text and associated tables was revised in the Draft Final SI report to correctly use the terms "risk" and "hazard".
6	The discussion of the risk characterization results does not provide sufficient detail. In Section 5.4.4 (Risk Characterization Results), please provide additional discussion pertaining to the comparison of analytical results to ambient and/or reference concentrations. Additionally, please consider revising the risk characterization section so that it provides additional discussion regarding the results of the quantitative evaluation.	Section 5.4.4 briefly summarizes the data in the tables referenced in the first paragraph. Additional discussion about the quantitative evaluation and the comparison of analytical data to reference concentrations was added to the Draft Final SI report based on the referenced tables.
General Comments from DTSC HERD (dated May 7, 2007)		
1	a) The Ecological Risk Assessment (ERA) and the Human Health Risk Assessment (HHRA) evaluation of the Western Bayside and Breakwater Beach, for collection and consumption of shellfish, are concise and well written. However, HERD requires several additional presentations and amendments. b) Presentation, in the main text, of carcinogenic risk and non-cancer hazard by exposure pathway alone is insufficient. The results of the fisher/shellfisher HHRA scenario, presented in Appendix D, must be summed for this scenario in the main text to provide the Reasonable Maximum Exposure (RME) carcinogenic risk and non-cancer hazard. c) The Conceptual Site Model (CSM) presents major and	a) Comment noted. b) Additional tables were added to the Draft Final SI report that sum the chemical risks and hazards across exposure pathways to indicate the total risk and hazard to individuals exposed via multiple pathways. The text also was updated to present this information. c) Direct exposure to sediment by recreational users is considered minimal. It is assumed that any risks associated with recreational exposure to sediment, via incidental ingestion and dermal contact, would be accounted for by evaluating exposures from direct contact with sediments during clamming activities. Therefore, the Conceptual Site Model and Human Health Risk Assessments for Western Bayside and Breakwater Beach present major, significant exposure pathways for (1) recreational users exposed to sediment through the collection of shellfish and (2) individuals who consume shellfish from the offshore

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	minor exposure pathways for a fisher/shellfisher scenario and a recreational scenario. First, for completeness the recreational scenario should be described as: 1) exposure to Western Bayside and Breakwater Beach sediments will be minimal for recreational users other than the fisher/shellfisher; and 2) evaluation of the recreational user scenario for the Western Bayside more properly belongs in the, adjacent IR Site 1 and IR Site 2 HHRA. Inclusion of the recreational user in the CSM figures should be referenced to the correct HHRA document. Screening the human health risk and/or hazard for the recreational user scenario at Breakwater Beach may need to reference a separate HHRA document or be expanded in this document. d) The estimates of non-carcinogenic adverse effects are properly referred to as estimates of hazard as there is no probability component as there is in the estimate of carcinogenic risks. The references to non-cancer 'risk' throughout the HHRA (e.g., Table 5-19 and Table 7-4) should be amended to non-cancer hazard. e) The inference is made that sediment concentrations are lower in Western Bayside 2005 than that demonstrated in previous sediment collection efforts. The focus of the 1993/1994 and a portion of the 1996 sediment sampling concentrated on stormwater outfalls or areas of expected release from the terrestrial areas adjacent to the Western Bayside. Western Bayside 2005 sampling was performed along a systematic grid, at locations further offshore, to obtain an estimate of an averaged sediment concentration in locations away from the potential point	study sites. A third bay-wide exposure pathway, exposure via consumption of sport fish, is also evaluated. The Conceptual Site Models (Figures 5-1 and 5-2) and the text of the Draft Final SI report were updated to clarify these exposure scenarios. In addition, the report text was revised to specify that any human exposures occurring along the shoreline of Western Bayside were assessed as part of the IR Site 1 and IR Site 2 studies. d) The terminology in the human health risk assessment text and associated tables were revised in the Draft Final SI report to correctly use the terms "risk" and "hazard". e) The Draft SI report text was reviewed and updated as needed to make it clear that temporal patterns are difficult to interpret due to a lack of co-located samples. f) For other Navy sites in San Francisco Bay, the use of ER-M quotients (ERM-Qs) were discussed in the DQOs, and incorporated in a weight of evidence approach to risk characterization. Previous experience has shown that there is considerable uncertainty in the development and interpretation of these quotients, and therefore, this indicator was not used in this SI report. Please refer to the Final Work Plan, including DQO Table 3-2. Potential risk to benthic invertebrates through exposure to a mixture of contaminants was addressed by conducting toxicity bioassays on site sediment and was not dependent on screening benchmarks such as ER-Ms or ERM-Qs.

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	discharge locations previously investigated. As the 2005 sediment samples were collected in different locations for different purposes, the conclusion cannot be drawn that sediment concentrations appear to be decreasing by comparison to the 1993/1994 and 1996 sediment sample concentrations. f) Individual comparisons of each Contaminant of Potential Ecological Concern (COPEC) are made to the National Oceanic and Atmospheric Administration (NOAA) Effects Range-Median (ER-M). Sediment investigations for other Navy sites in the San Francisco Bay area have presented the ER-M Hazard Quotient (HQ) in an attempt to sum additive effects. The ER-M HQ should be provided in the discussion of sediment concentrations and the potential adverse effect to benthic organisms.	
Specific Comments - from DTSC HERD (dated May 7, 2007)		
1	Three separate sediment data sets based on year collected and depth were evaluated in the ERA: Surface sediments (0-5 cm) for all years at Western Bayside and Breakwater Beach; 2005 Western Bayside surface sediments (0-5 cm); and, 2005 Western Bayside subsurface sediments in two groups, of 5-25 cm and 25-50 cm (Executive Summary, page iii; Section 4.1.1, page 4-1). HERD concurred with this division during development of the work plan. These divisions do not capture the entire depth of sediments available to burrowing organisms in one sediment group. However, the sediment groups utilized allow some consideration of changes in surface sediment concentrations over the time interval of 1993 through 2005. This comparison over time should be limited to reasonably co-	The coordinate system used to plot the 2005 stations in Figure 3-1 was corrected, and HERDs request to identify reasonably co-located stations evaluated. Given the lack of an adequate number of "reasonably collocated samples", text suggesting that data are indicative of a temporal trend was carefully reviewed to make sure it is not misleading.

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	located sediment sample locations. Please clearly identify, in the text, those Western Bayside 2005 sample locations which are reasonably co-located (e.g., Figure 3-1: B03 and WBC-15; B08 and WB011; B12 and WB019) as to allow trends over time to be evaluated.	
2	The NOAA ER-M sediment concentrations are incorrectly referred to as the 'Effects Range-Medium' (Executive Summary, page iii). Please correct this typographic error at all points in the text.	This typographic error was corrected (i.e., Effects-Range **Median**) throughout the Draft Final SI Report.
3	The summary statement is made regarding the HHRA that 'Total cumulative risks for all exposure scenarios were comparable to or even less than those estimated for reference locations' (Executive Summary, page iv). While a recreational user scenario is included in the CSM (Figure 5-1 and 5-2), apparently for completeness, with the fisher/shellfisher scenario, no summed cancer risk and/or non-cancer hazard for either scenario is presented in HHRA summary (Section 5.4.4, page 5-12; Tables 5-5 through 5-24). Please include in the text the summed risk and/or hazard across all exposure pathways for the scenarios evaluated.	Additional tables were added to the Draft Final SI report that sum the chemical risks and hazards across exposure pathways to indicate the total risk and hazard to individuals exposed via multiple pathways. The text was updated to present this information.
4	The Western Bayside 2005 sediment sampling was 'designed to represent the sediment chemistry throughout the area, not just suspected "hot spots"' (Section 3.1.1, page 3-2). As the 1993/1994 and 1996 Western Bayside sediment sampling targeted, in part, potential 'hot spots' conclusions regarding changes in sediment concentration over time must be limited to identified reasonably close sediment sampling locations. Please provide a list of reasonably co-located sediment locations.	The coordinate system used to plot the 2005 stations in Figure 3-1 was corrected, and HERDs request to identify reasonably co-located stations evaluated. Given the lack of an adequate number of "reasonably collocated samples", all text suggesting that data are indicative of a temporal trend was carefully reviewed to make sure it is not misleading.

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5	No 2005 sediment sampling was performed for Breakwater Beach (Section 4.1.1, page 4-1) and Breakwater Beach surface sediments (0-5 cm depth) are evaluated only by the All Years data set. This provides fewer sediment data set comparisons than available for Western Bayside. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted.
6	Sediment samples collected as part of the Skeet Range Investigation, and analyzed only for lead and Polycyclic Aromatic Hydrocarbons (PAHs), were not included as part of the Western Bayside data set (Section 4.1.1, page 4-3). HERD agrees with this exclusion in assessing general Western Bayside sediment conditions. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted.
7	HERD is accustomed to the use of the San Francisco Bay Water Quality Board sediment ambient concentrations (SFEI, 1997) as sediment 'ambient' concentrations for less than 40 percent fines (<40% fines) and between 40 percent fines and 100 percent fines (40%-100% fines). HERD defers to the San Francisco Bay Water Quality Board regarding use of the 'ambient' sediment station data for statistical tests (Section 4.1.2, page 4-4).	Comment noted.
8	HERD agrees that antimony reported at extremely high sediment concentrations from 1993/1994, which were not detected in Western Bayside sediments during the 1996 and 2005 sampling (Section 4.2.1.1, page 4-8), are not representative of sediment concentrations throughout the Western Bayside. Unless co-located samples were collected in 1996 or 2005 these antimony sediment concentrations cannot be discounted and may be representative of antimony	Comment noted.

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	at isolated locations near the outfalls sampled in 1993/1994. However, HERD agrees that these 1993/1994 antimony concentrations can be eliminated as a Contaminant of Potential Ecological Concern (COPEC) when evaluating area-wide sediment because of their restricted location at outfalls. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	
9	Cadmium in Western Bayside sediments showed 'a pattern of increasing concentration with depth' (Section 4.2.1.2, page 4-9). The archived sediment samples from locations with increasing cadmium concentration should be analyzed for all inorganic elements and reported to provide a complete picture of the cadmium sediment profile.	While cadmium concentrations in the 25-50 cm depth interval were higher than shallower intervals at some stations, the maximum observed concentration of cadmium in the 25-50 cm depth interval was 0.597 mg/kg, which was well below the eco-screening level (roughly one-half the ER-L), and significantly below the ER-M of 9.6 mg/kg. Therefore, further analysis of archived samples was not performed.
10	Surface sediment concentrations of PAHs and dibenzofurans were highest in the northern portion of the Western Bayside offshore of the Area 1b Former Burn Area (Figure 2-3) and declined to the north and south (Section 4.2.2.1, page 4-9). Subsurface sediment concentrations of PAHs were 'generally higher' in the 5-25 cm sediment depth sample than surface sediments (0-5 cm depth) and were 'greatly elevated' at the 5-25 cm depth at location WBC-20, just south of the IR Site 1 landfill (Section 4.21.2.2, page 4-9). These sediment profiles should be considered when evaluating any construction associated with the projected future uses (e.g., boat launching ramps) which might disturb these sediments. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractor.	Comment noted. Please note that the screening level ecological risk assessment for Western Bayside used not only the surface sediment concentrations, but also the 5-25 cm data (Section 6.3.1 of the Draft SI report).
11	The maximum concentration of one radium isotope (Ra 226) was detected at 25-50 cm depth in the deepest sediment	While the maximum concentration of radium-226 was detected in the 25-50 cm depth, the maximum concentration was only 0.45 pCi/g,

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	section analyzed (Section 4.2.3, page 4-10). This would appear to require analysis of the archived deeper core sample from this location for Ra 226.	which is below a level of concern. This concentration is consistent with background levels used at Alameda Point. Therefore, further analysis of archived samples was not performed.
12	Radium isotopes were measured at eight 2005 Western Bayside sample locations, One surface and four subsurface detections of Ra 226 and two surface and five subsurface detections of Ra 228 were reported (Section 4.2.3, page 4-10). The maximum sediment concentrations of both Ra 226 and Ra 228 are in the northern area of the Western Bayside 'adjacent to the IR Site 1 disposal area, which is known to have received radiological waste'. HERD defers to the California Department of Health Services (DOHS) to determine whether the Western Bayside distribution of radium isotopes is sufficiently characterized.	Comment noted.
13	The NOAA ER-M HQs should be presented as the sum of each COPEC ratio to the NOAA ER-M for the Western Bayside (Section 4.2, page 4-7) and the Breakwater Beach (Section 4.3, page 4-11) in addition to the individual comparison to each NOAA ER-M.	For other Navy sites in San Francisco Bay, the use of ER-M quotients (ERM-Qs) were discussed in the DQOs, and incorporated in a weight of evidence approach to risk characterization. Previous experience has shown that there is considerable uncertainty in the development and interpretation of these quotients, and therefore, this indicator was not used in this SI report. Please refer to the Final Work Plan, including DQO Table 3-2. Potential risk to benthic invertebrates through exposure to a mixture of contaminants was addressed by conducting toxicity bioassays on site sediment and was not dependent on screening benchmarks such as ER-Ms or ERM-Qs.
14	The Breakwater Beach sediment analysis for radium isotopes is determined by the Navy to be 'unfit' for estimating risk (Section 4.3.3, page 4-13). While the likelihood of release of radium paint residues from the outfalls in the Breakwater Beach is low, given the building locations known to house radium dial painting operations, this is a data gap. This comment is meant for the DTSC	Comment noted. Please note the response to DHS Comment 5.

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	Project Manager and no response is required from the Navy or the Navy contractors.	
15	Cadmium, chromium, copper, lead, mercury, selenium, and silver appear elevated in Breakwater Beach sediments compared to San Francisco Bay 'ambient' concentrations. Several individual PAHs and PAHs summed by molecular weight (structure) also appear elevated compared to San Francisco Bay 'ambient' concentrations (Section 4.3.5, page 4-13). The highest concentrations of PAHs were long the shoreline adjacent to Outfalls O and P. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted.
16	The discussion of human health exposure pathways and receptors (Section 5.2.1, page 5-2 and 5-3) should more clearly describe whether the HHRA proposal is for: 1) a single exposure scenario which incorporates dermal and oral exposure to sediments during recreation (e.g., beach walks) with all exposures while collecting and consuming fish/shellfish or 2) two separate exposure scenarios with one for recreational exposure without fish/shellfish collection and the other for recreational exposure with fish/shellfish collection and consumption. The text discussion would appear to indicate that a single exposure scenario (number 1 above) is recommended while the associated figures (Figure 5-1 and 5-2) appear to indicate that two exposure scenarios (number 2 above) will be evaluated. The detailed HHRA appears to present the results for a combined single exposure scenario (number 1 above). Please correct this apparent contradiction in the number of exposure scenarios.	Direct exposure to sediment by recreational users is considered minimal. It is assumed that any risks associated with recreational exposure to sediment, via incidental ingestion and dermal contact, would be accounted for by evaluating exposures from direct contact with sediments during clamming activities. Therefore, the Conceptual Site Model and Human Health Risk Assessments for Western Bayside and Breakwater Beach present major exposure pathways for (1) recreational users exposed to sediment through the collection of shellfish and (2) individuals who consume shellfish from the offshore study sites. A third bay-wide exposure pathway, exposure via consumption of sport fish, is also evaluated. The Conceptual Site Models (Figures 5-1 and 5-2) and the text of the Draft Final SI report were updated to clarify these exposure scenarios. In addition, the report text was revised to specify that any human exposures occurring along the shoreline of Western Bayside were assessed as part of the IR Site 1 and IR Site 2 studies. In addition, human receptors may be exposed to contaminants via single or multiple pathways. Therefore, each exposure pathway was evaluated separately, and the tables in Section 5 of the Draft SI report sum the risk and hazard for each exposure pathway. The Human Health Risk

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		Assessment summarizes total risk and hazard for each exposure pathway. Additional tables were added to the Draft Final SI report that sum the chemical risks and hazards across exposure pathways to indicate the total risk and hazard to individuals exposed via multiple pathways. The text also was updated to present this information.
17	HERD agrees with the estimated ingestion rates for fish and shellfish (Section 5.2.3, page 5-4) based on the San Francisco Estuary Institute (SFEI, 2002) as reasonable protective estimates for adults and children consuming shellfish. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted.
18	HERD reviewed the components of the HHRA and, other than the specific items listed above, has no recommendations on the methodology used. Rather than providing specific comments for each, the HHRA components for which HERD has no recommendations or requirements are: a. Exposure Point Concentration (Section 5.2.2, page 5-3); b. Exposure Parameters (Section 5.2.3, page 5-4; Table 5-2); c. Exposure to Lead (Section 5.2.4, page 5-6); d. Dose Estimates (Section 5.2.5, page 5-6); and, e. Toxicity Assessment (Section 5.3, page 5-8; Table 5-3). This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted.

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19	The Risk Characterization (Section 5.4, page 5-11) must be augmented to include the carcinogenic risk and non-cancer hazard estimates for the exposure scenarios evaluated, not just statements of risk and/or hazard relative to reference conditions. The presentation of the numerical risk and hazard estimates should include estimates of risk and hazard associated with the reference conditions.	Section 5.4.4 briefly summarizes the data on the tables referenced in the first paragraph. Additional discussion about the quantitative evaluation, including the numerical estimates of carcinogenic risk and non-cancer hazard associated with the sites and reference conditions, was added to the Draft Final SI report based on the referenced tables.
20	Prey Ingestion Rates (IR_{prey}) are estimated for the surf scoter (Section 6.3.1.2, page 6-13) and the Least tern (Section 6.3.1.2, page 6-14) using a Field Metabolic Rate allometric regression (Nagy, 1999) and then converting the metabolic rate to Dry Weight (DW) IR_{prey} using the mean of the insectivore and piscivore avian conversion rates for the scoter and the piscivore conversion rate for the Least tern. HERD previously recommended, in May 8, 2006 comments on the IR Site 20 and IR Site 24 Draft Remedial Investigation, that rather than calculate the free-ranging FMR (Nagy, 1999) and then converting this value to DW IR_{prey}, the more recent publication by the same author (Nagy, 2001) should be used. In response, the Navy added a statement in the Uncertainty Section for IR Site 20 and IR Site 24 that the maximum deviation from the generalized avian regression equations (Nagy, 2001) was greater than 20 percent where individual species prey ingestion regressions were known. This Uncertainty Section statement did not indicate the error term of the Field Metabolic Rate regressions. HERD accepted the use of Field Metabolic Rate method based on the limited size of IR Site 20 and the recommendation that IR Site 24 proceed to further investigation or Feasibility Study (FS). HERD reiterates that the more recent food ingestion regressions (Nagy, 2001)	To address DTSC's concern, the more recent Nagy (2001) equation was used to develop IR_{prey} in the Draft Final SI report and, along with the minor revisions to the EPCs (see response to CDFG specific Comment #7), the dose models and all associated tables were updated. Updating the prey ingestion model and the EPCs did not result in different conclusions for the site. It should be noted that the use of all models has inherent uncertainty and, as such, slight differences among models are generally best discussed in the uncertainty section. As noted by DTSC, the differences in the models result in only *slightly* different estimates of IR_{prey}. These slight differences do not result in different conclusions to the evaluation. In such situations, in general, the most efficient (and preferred) manner of addressing the differences in the models would be to include a discussion in the Uncertainty Analysis, as was done for Western Bayside and Breakwater Beach.

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	should be used to calculate the surf scoter and Least tern ingestion rates for the Western Bayside and Breakwater Beach based on the size of these areas and the relatively low elevations above sediment 'ambient' for Breakwater Beach. These more recent regression equations directly provide DW IR_{prey} which can differ slightly from the values calculated by the Field Metabolic Rate method. For example, using the 1100 gram Body Weight (BW) listed for the surf scoter (Section 6.3.1.2, page 47) the regression equations for marine birds (Nagy, 2001; a=0.880 and b=0.658) yield a DW IR_{prey} of 88.25 grams DW/day or 0.088 kg DW/day rather than 0.084 kg DW/day. This is an approximately 5 percent increase in exposure to COPECs for the same surf scoter BW. Please recalculate the vertebrate intake rate where the Field Metabolic Rate method (Nagy, 1999) was used (i.e., surf scoter and least tern) and Hazard Quotients (HQs) for the SLERA and the Baseline ERA (BERA).	
21	There is a typographic error in the listing of the insectivore conversion factors in units of kJ/g DW (Section 6.3.1.2, page 6-13),while the piscivore conversion rate is in units of kJ/day DW (Section 6.3.1.2, page 6-13 and page 6-15). This typographic error should be corrected to provide the correct units for each feeding guild.	As discussed in the response to DTSC HERD Specific Comment #20, the allometric model used to estimate ingestion rate has been changed from Nagy 1999 to Nagy 2001. The Nagy 2001 equation does not use a conversion factor, thus the typographic error is no longer relevant. Therefore, no revisions are necessary.
22	HERD reviewed the components of the Screening Level Ecological Risk Assessment (SLERA) and, other than the specific items listed above, has no recommendations on the methodology used. Rather than providing specific comments for each, the components for which HERD has no recommendations or requirements are: a. Selection of Assessment Endpoints (Section 6.2.3,	Comment noted.

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	page 6-5); b. Selection of Receptors of Concern (Section 6.2.4,page 6-6); c. Selection of SLERA Measurement Endpoints (Section 6.2.5, page 6-10); d. Selection of Preliminary COPECs (Section 6.2.7, page 6-10); e. Calculation of Exposure Point Concentration (EPC) for SLERA Dose Assessment (Section 6.3.1.2,page 6-12); f. Benthic Invertebrate Benchmarks (Section 6.3.2.1, page 6-16); and, g. Food Web Toxicity Reference Values (Section 6.3.2.2, page 6-18); This list is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	
23	Ecotoxicity Reference Values (ERVs), based on critical tissue concentrations for fish, are draft values which were developed by the Navy for Pearl Harbor ERA and currently under review by the U.S. EPA Region 9 (Section 6.4.3.1, page 6-29). HERD generally requires that ecological screening values be final values which have been reviewed and approved of by the appropriate regulatory agencies and trustees. HERD defers to the U.S. EPA Region 9 regarding the application of the draft ERVs to NASA Western Bayside and Breakwater Beach.	Comment noted.
24	HERD does not agree that estimates of distance traveled to forage, when used to develop a strictly geometric estimate of foraging area (e.g., using distance traveled to forage as the radius for the area of a circular forage range), are accurate representations of the actual Site Use Factor (SUF) (Section	Comment noted.

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	6.4.4, page 6-31; surf scoter and double crested cormorant). However, HERD accepts use of the geometric estimates given that incremental values for Site Use Factor (SUF) of 1, 0.5, 0.25 are presented in addition to the receptor-specific geometric estimate for Western Bayside (Section 6.4.4.1, page 6-32; Tables 6-24 through 6-26 and Tables 6-30 through 6-32) and Breakwater Beach (Section 6.4.4.2, page 6-33; Table 6-33, Table 6-34 and Table 6-35).	
25	Based on the generally lower, and in some cases much lower, sediment concentrations detected in the 2005 sediment sampling (Section 6.5, page 6-36), HERD agrees that the area-wide current ecological hazard posed by Western Bayside surface sediments is comparable to reference stations (Section 6.5, pages 6-36 through 6-44). However, this conclusion applies only to the surface sediments (i.e., 0 to 5 cm) within the entire Western Bayside boundary and not the subsurface sediments, particularly adjacent to the Former Burn Area (See Specific Comment number 10) and IR Site 1 Disposal Area (See Specific Comment number 12).	Comment noted. Please note that the screening level ecological risk assessment for Western Bayside used not only the surface sediment concentrations, but also the 5-25 cm data (Section 6.3.1 of the Draft SI report).
26	Ecological hazard for the Western Bayside appears minimal compared to reference stations based on: a. Amphipod toxicity testing results which showed similar toxicity in reference stations as Western Bayside stations; b. The modeled fish tissue concentration results being less than the No Observable Adverse Effect Level (NOAEL) or Lowest Observable Adverse Effect Level (LOAEL) Draft ERVs; c. No Surf Scoter Low Toxicity Reference Value (TRV) HQs greater than one which were	Comment noted.

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	statistically greater than the sediment 'ambient' concentrations; d. While Total Polychlorinated Biphenyl (PCB) and Total 4,4-DDx HQs for the Least tern exceeded one for All Years Data, no Least Tern Low TRV HQ greater than one for 2005 data; and e. No double-crested cormorant Low TRV HQs greater than one which were statistically greater than sediment 'ambient' concentrations. This summary is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractor.	
27	In general, inorganic elements in Breakwater Beach were greater than San Francisco Bay 'ambient' sediment concentrations (Section 6.5, page 6-36). Many potential organic COPECs could not be evaluated statistically because of low Frequency of Detection. However, ecological hazard for the Breakwater Beach appears minimal compared to reference stations (Section 6.5, pages 6-37 through 6-39) based on : a. The amphipod lower toxicity results in the 2002 testing, compared to the amphipod toxicity testing in the 1998 Breakwater Beach investigation; b. The modeled fish tissue concentration results being less than the NOAEL or LOAEL Draft ERVs; c. Chromium, lead and selenium concentrations statistically greater than 'ambient', but the Surf Scoter Low TRV HQ for chromium less than one for reasonable SUFs, the lead and selenium Low TRV HQ not varying with differences in SUF, indicating similar lead and selenium reference intakes;	Comment noted.

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	d. Lead, selenium, total PCB and total 4,4'-DDx statistically greater than 'ambient', but Least tern Low TRV HQs unvarying with differing SUFs (lead and selenium) or Low TRV HQs less than one for reasonable SUFs (Total PCB and total 4,4'-DDx. No High TRV HQs exceeded one; and, e. Lead statistically greater than 'ambient', but double-crested cormorant Low TRV HQs not varying with differing SUFs, indicating a similar lead intake at reference areas. The lead High TRV HQ did not exceed one for any SUF. This summary is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	
28	The Western Bayside cumulative cancer risk associated with forage fish and shellfish consumption (2.1×10^{-3}; Appendix D Table 10.1.RME, page D-91) dwarfs the dermal contact and ingestion of sediment (2.7×10^{-6}; Appendix D Table 10.1.RME, page D-91). A similar ratio is obvious for the cumulative cancer risk associated with the Breakwater Beach forage fish and shellfish consumption (3.1x10-3; Appendix D Table 10.1.RME, page D-164) versus dermal contact and ingestion (3.6x10-6; Appendix D Table 10.1.RME, page D-164). All reference area cancer risk and non-cancer hazard estimates appear greater or similar to Western Bayside and Breakwater Beach cancer risk and non-cancer hazard (Table 5.5, page T-50 through Table 5-24, page T-67). A simple summary table of the chemical-related human health risk and hazard presenting the RME pathway specific risk and hazard for Western Bayside, Breakwater Beach and reference areas must be presented in the HHRA (Section 5.5, page 5-13) and in conclusions	The Human Health Risk Assessment in the Draft SI report evaluates each exposure pathway separately, and the tables in Section 5 of the Draft SI report sum the risk and hazard for each exposure pathway. Additional tables were added to the Draft Final SI report that sum the chemical risks and hazards across exposure pathways. Radium concentrations were low, and consistent with background levels used at Alameda Point. Table 5-25 of the Draft SI report shows that for Western Bayside, the cumulative RME risk for radium-226 is 3.38×10^{-7} and for radium-228 is 8.43×10^{-7}. The Western Bayside radium concentrations and risks were considerably lower than at Seaplane Lagoon (cumulative RME risk for radium-226 of 9.1×10^{-6} and for radium-228 of 1.9×10^{-6}), where all agencies agreed that radium was not a problem. The Site 17 ROD signed in October 2006 (DON, 2006a) documents that "the RI concluded that there was no unacceptable risk to human health or the environment associated with radium in sediments." Therefore, the Draft Final SI report was not revised to sum the chemical and radiological risks at Western Bayside. At Breakwater Beach,

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	(Section 8.1.2, page 8-1). Risk associated with radium isotopes should be indicated separately, but a summed risk for both chemical and radiological risk should be provided as required (EPA, 1997) for CERCLA investigations.	radium-226 and radium-228 are not COPCs; as included in DTSC's written comments, "there would appear to be no transport pathway for radium isotopes from the NAS buildings where radium dial painting occurred to Breakwater Beach."
29	Arsenic contributes the majority of carcinogenic risk in the fish/shellfish ingestion pathway for both Western Bayside and Breakwater Beach (e.g., 97% of the RME for All Years Surface data; Table 5-7). The majority of arsenic in fish and shellfish is known to occur as organic arsenic compounds (USDFA, 1993) which are much less toxic than the inorganic arsenic compounds on which the arsenic cancer slope factor is based. The USDFA recommended proportion of arsenic in fish and shellfish tissue is 10 percent inorganic arsenic to 90 percent organic arsenic. Adjustment of the total arsenic fish and shellfish concentration for a 10 percent inorganic arsenic concentration would greatly reduce the magnitude of the total cancer risk estimates for Western Bayside, Breakwater Beach and the reference areas. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.	Comment noted. Please note that a discussion of the likely overestimation of risk and hazard from arsenic via fish and shellfish ingestion, due to the assumption that all of the arsenic present is the more toxic inorganic form, was added to the uncertainty section (Section 7.3) of the Draft Final RI Report.
Conclusions - from DTSC HERD (dated May 8, 2007)		
	a) Additional presentation of carcinogenic risk and non-cancer hazard in support of the proposed conclusions should be provided in the Human Health Risk Characterization section and conclusions section. b) Ecological hazard at the Western Bayside and Breakwater Beach, when considered area-wide, would appear to be minimal or very similar to the reference areas.	a) The Human Health Risk Characterization section of the Draft Final SI report was updated to include the additional presentation of risk and hazard as requested. b) Comment noted. c) To address DTSC's concern, the more recent Nagy (2001) equation was used to develop IR_{prey} in the Draft Final SI report and along with the minor revisions to the EPCs (see response to CDFG specific comment

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	c) HERD recommended minor changes in the calculation of the prey ingestion rate for two of the three birds evaluated in the Screening Level and Baseline ERA. These modifications are unlikely to significantly change the risk and hazard estimates to a degree which would modify the Navy conclusions, but should be made in the Draft Final document for consistency and scientific accuracy. d) The maximum sediment concentrations of several Contaminants of Concern (cadmium and radium) were detected in the lowest section of the sediment cores analyzed. Analysis of the deeper core sections which were archived (frozen) in the event the maximum sediment concentration was detected in the lowest sediment core section analyzed (i.e., 25 to 50 cm depth) should be considered. e) Any conclusion that sediments with somewhat elevated concentrations are being covered by sediments with lower concentrations requires comparison of co-located sediment samples from the same depth. Only a few locations appear to have been sampled in multiple sampling events. f) Radium sediment results were determined by the Navy to be unacceptable for risk assessment. However, there would appear to be no transport pathway for radium isotopes from the NASA buildings were radium dial painting occurred to Breakwater Beach. HERD defers to the California DHS for determination of whether the Western Bayside and Breakwater Beach are adequately characterized for radium isotopes (Ra^{226} and Ra^{228}).	#7), the dose models and all associated tables were updated and reprinted. Updating the prey ingestion model and the EPCs did not result in different conclusions for the site. d) Analysis of the deeper core sections was considered, but is not considered necessary due to the low concentrations in these deepest samples. While cadmium concentrations in the 25-50 cm depth interval were higher than shallower intervals at some stations, the maximum observed concentration of cadmium in the 25-50 cm depth interval was 0.597 mg/kg, which is was well below the eco-screening level (roughly one-half the ER-L), and significantly below the ER-M of 9.6 mg/kg. While the maximum concentration of radium-226 was detected in the 25 – 50 cm depth, the maximum concentration was only 0.45 pCi/g, which is below a level of concern. This concentration is consistent with background levels used at Alameda Point. Given that the highest observed concentrations were well below levels of concern for cadmium and radium-226, further analysis of archived samples was not conducted. e) Concur. The SI report text was revised to clarify that any discussion regarding temporal trends may be affected by the lack of collocated sampling stations. f) Comment noted. For additional information related to radium at both SI sites, please refer to responses to DHS comments.

Conclusions - from DTSC HERD (dated May 8, 2007)

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Specific Comments and Recommendations - from DTSC Geologic Services Unit (GSU) (dated April 27, 2007)		
1	Table 3-2: A review of this table indicated that radionuclide testing was not conducted for sediment samples collected from Breakwater Beach. On page 4-13, section 4.3.3 it is indicated that core samples from four locations at Breakwater Beach were tested for radium. It is further indicated that the radium results are considered unfit for use in estimating potential risks. One of the reasons given for the radium results being unusable is small sample size. If these data are unusable additional sediment sampling may be warranted to fully assess risks. **Recommendation: Please provide clarification as to whether or not samples from Breakwater Beach were tested for radium. If sample results for radium are not usable then additional sampling and testing should be conducted to determine if radium is present at levels that pose risk to human and/or ecological receptors.**	As documented in the approved Final Offshore Sediment Study Work Plan, no 2005 sampling for radium-226 and radium-228 at Breakwater Beach was required. The final work plan states that "historical data from Breakwater Beach are sufficient; therefore, no new data collection is proposed." This is consistent with the fact that there would appear to be no transport pathway for radium isotopes from the NAS Alameda buildings were radium dial painting historically occurred to Breakwater Beach (Figure 2-4). In summary, at Breakwater Beach, radium-226 and radium-228 are not COPCs, so were not sampled in 2005. As included DTSC HERD's written conclusions, "there would appear to be no transport pathway for radium isotopes from the NAS buildings where radium dial painting occurred to Breakwater Beach." Section 4.3.3 of the Draft Final SI report was clarified as follows. At the beginning of this section, the following sentence was added: "In accordance with the Final Offshore Sediment Study Work Plan (Battelle, et al., 2005), radium samples were not collected at Breakwater Beach in 2005." The last sentence in Section 4.3.3 was revised, and additional text was added, as follows: "These data are considered unfit for use in estimating potential risks because of the deep surface layer interval and because it was not possible to calculate a 95% UCL for these data due to small sample size, low detection rates, and high DLs. In addition, detected radium concentrations were low. In the 0-2.7 feet cores collected in 1996, the maximum radium-226 concentration was 1.11 pCi/g. The maximum radium-228 concentration was 0.65 pCi/g. The low detected radium concentrations are consistent with the fact that there would appear to be no transport pathway for radium isotopes from the NAS Alameda

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		buildings where radium dial painting historically occurred to Breakwater Beach (Figure 2-4)." A footnote was added to Table 3-2 stating: "Radium samples collected in 1996 were not usable for evaluating risk, but the low concentrations and lack of a source for radium at Breakwater Beach were considered during preparation of the work plan for the 2005 sampling event. During development of the Offshore Sediment Study Work Plan, the regulatory agencies agreed that no additional sampling was required at Breakwater Beach."
2	Executive Summary, Page IV: It is reported that direct contact with surface water is considered a complete pathway. It is also reported that water is not considered a primary exposure medium due to rapid dilution that is a result of tidal action and San Francisco Bay currents. Groundwater contaminants in monitoring wells located along shoreline may be elevated. **Recommendation: Conduct an assessment to determine the amount of dilution necessary to mitigate contaminants in groundwater that are flowing into the Bay. Consult the regional water quality control board to assess possible requirements for groundwater contaminants flowing into the Bay.**	The approved Final Offshore Sediment Study Work Plan states "Additionally, surface water is not considered a significant exposure medium due to tidal action and San Francisco Bay currents, which result in rapid dilution. Consequently, exposures via surface water are not proposed for quantitative evaluation." No assessment of dilution is required based both on regulatory agency concurrence on the final work plan and previous surface water sampling results. Key information from the discussion below was added to the Draft Final SI report Section 3.1.1 text for the initial 1993/1994 ecological assessment. Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/1994 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996b) and are summarized in Table 7-9 of that report. Total metals concentrations were below detection limits, with the exception of chromium and zinc, which were detected at concentrations less than the chronic and acute marine ambient water quality criteria (AWQC) (Tables D-3.1 and D-3.2 in PCR, 1996). Dissolved metals were never detected in surface water.

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		Metals detection limits (total and dissolved) were adequate for most of the constituents (exceptions included copper, mercury, nickel, and silver) to allow comparison to AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside were all not detected (see Tables D-3.2 and 3.3 of PRC, 1996b), although elevated detection limits preclude comparisons of most pesticides to AWQC. Based on these data and as specified in the approved Final Work Plan for the Alameda offshore sites, surface water is not a significant exposure medium to chemical contaminants.
3	Dioxins may have formed during burning operations that occurred at the northwest corner of Alameda Point (see page 2-2, last paragraph). Material from the burn area was reportedly pushed into the bay with a bulldozer that expanded the shoreline westward. **Recommendation: Consider testing sediment samples from the bay for dioxins.**	The following text was added to Section 2.3.1.1: **"In March 2005, four soil borings (IR1-EAD-SOC 13, 14, 15, and 16) were completed within the Burn Area at IR Site 1, with two of the borings being completed as close to within 20 ft of the shoreline as possible while avoiding interference from the large riprap protective covering present along the shore of IR Site 1 (Battelle, 2006). Soil cores were collected at four depth intervals (0 – 2 ft, 2 – 10 ft, 10 – 20 ft, and 20 – 30 ft). Fifteen individual PCDD/PCDF congeners were analyzed in all Burn Area soil samples because they represented the primary data gap that was to be addressed during the March 2005 survey. Seven of these individual PCDD/PCDF congeners were detected in each of the soil samples collected from the four IR Site 1 Burn Area soil sampling locations. The 2,3,7,8-TCDD toxic equivalents (TEQs) for surface soils at the Burn Area ranged from 27.37 ng/kg (dry weight) to 78.76 ng/kg. These concentrations are well below the U.S. EPA cleanup level (1 ppb or 1 µg/kg [TEQs]) for dioxin in residential soils at Superfund and RCRA cleanup sites (U.S. EPA, 1998). This recommended level for surface soil is generally considered protective of human health and the environment, and is based on the direct contact exposure pathway. Therefore, while dioxins were detected in soils at the IR**

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		Site 1 Burn Area in 2005 (Battelle, 2006), they are a ubiquitous contaminant and are not one of the drivers (i.e., TPH, PAHs, pesticides, PCBs, metals, and radium) for the proposed remediation of soils at IR Site 1 (DON, 2006b). The IR Site 1 current burn area does not extend into the bay or even onto the beach area." In addition, during finalization of the Final Offshore Sediment Study Work Plan (Battelle et al., 2005), which describes the analytes and locations of the 2005 sampling effort at Western Bayside, no request was made by the agencies to analyze dioxin in the offshore sediment samples collected at Western Bayside in 2005. The agencies reviewed the draft work plan, a conference call was held on March 28, 2005 to discuss various issues associated with the received comments, and the agency comments were addressed in the final version of the document (Battelle et al., 2005, Appendix E, Response to Agency Comments on the Draft Work Plan/ Meeting Minutes). An additional sampling location (WBC-17) was added to the northwestern corner of near the IR Site 1 Burn Area in response to agency comments, but there was no request for dioxin sampling.
Comments – from Mr. Robert Wilson, Department of Health Services (dated May 8, 2007)		
1	Section 4.2.3 states that radium concentrations were measured at eight 2005 sample locations, but does not include information about radium concentrations measured at the remaining fourteen 2005 sediment sample locations at Western Bayside. Was radium considered an analyte for all twenty-two 2005 sediment sample locations or just eight sample locations? The Navy may want to rewrite the statement in order to clarify.	The text in Sections 3.1.1 and 4.2.3 of the Draft Final SI report was revised to clarify that radium was analyzed at a subset (i.e., 8) of the 2005 sample locations (as indicated in Table 3-1), and targeted outfalls and areas adjacent to IR Sites 1 and 2.
2	According to Section 2.3.1.1, page 2-2; the conceptual site model for the potential sources of contamination to the Western Bayside include the past onshore waste activities at	The coordinate system used to plot the 2005 sampling locations incorrectly showed these stations further offshore in Figure 3-1 than they actually were. The 2005 sampling locations were located 75 – 150

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	IR Sites 1 and 2. As mentioned in this section, these onshore waste activities included the land disposal and burial of low-level radioactive wastes. In addition, wastes were burned in the area of IR Site #1 ("Burn Area") and the "burn residue was pushed into San Francisco Bay with a bulldozer that extended the shoreline westward". While the Navy considers the 2005 sediment sampling event to be representative of the most current conditions at the Western Bayside locale, the distance from the shoreline to the sampling stations appears to be approximately 300 – 400 feet. How could this sediment sampling be used to consider shoreline sediment exposed during low tides as a factor in human health risk assessments? (See section 5.2.1, 4th paragraph)	ft offshore and included five samples adjacent to the beach areas along IR Site 1, collected as close to shore as safely possible at high tide (Battelle et al., 2005). Figure 3-1 was updated in the Draft Final SI report to show the correct sample locations in 2005. The bubble plots in Appendix A of the Draft SI report show the correct relative positions of the 2005 samples. Also, the cited SI text describes how the current burn area within IR Site 1 was created. The IR Site 1 current burn area does not extend into the bay or even onto the beach area. To clarify, the following text was added to Section 2.3.1.1: "The IR Site 1 current burn area does not extend into the bay or even onto the beach area." The text of the Draft Final SI report also was updated to clarify that human exposures (i.e., recreational and occupational) at the shoreline adjacent to Western Bayside were assessed as part of the IR Site 1 and IR Site 2 studies (DON, 2006b; Battelle and Blasland, Bouck, and Lee, Inc. [BBL], 2006).
3	The Navy needs to provide additional information, within the text of the Site Inspection Report, about the 1993/1994 and 1996 sampling stations that are related to sampling for radionuclides and for all remaining 2005 sample locations. If analyzing for radionuclides was not performed for these sampling dates, then the Navy should state their reasoning for their exclusion.	The text in the Draft Final SI report was revised to clarify that for Western Bayside, gross *alpha* radiation and gross *beta* radiation were analyzed at all 13 stations in 1993/94, and radium was analyzed at a subset (i.e., 8) of the 2005 sample locations (as indicated in Table 3-1). In 1996, radium was analyzed in sediment core samples at four locations (BB003, BB004, BB006, and BB009) at Breakwater Beach, with BB003 analyzed only at depth.
4	No background information for radionuclides was provided and should be included. If none is required, then state the reason. What are the background levels for radionuclides of concern within the sampling areas?	No background levels are required due to the low radium concentrations. The low radium concentrations (Table 4-2) are consistent with background levels used at other Alameda Point sites. Table 5-25 of the Draft SI report shows that for Western Bayside, the cumulative RME risk for radium-226 is 3.38×10^{-7} and for radium-228 is 8.43×10^{-7}. The Western Bayside radium concentrations and risks

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		were considerably lower than at Seaplane Lagoon (cumulative RME risk for radium-226 of 9.1 x 10^{-6} and for radium-228 of 1.9 x 10^{-6}), where all agencies agreed that radium was not a problem. The Site 17 ROD signed in October 2006 (DON, 2006a) documents that "the RI concluded that there was no unacceptable risk to human health or the environment associated with radium in sediments." The maximum concentration of radium detected during the RI at Seaplane Lagoon was 3.92 pCi/g of radium-226 (DON, 2006a). The measured values of radium at Western Bayside and Breakwater Beach also were well below the 5 pCi/g concentration cited as a potential benchmark for radium in the Alameda Point IR Site 17 RI Report based on the Uranium Mill Tailings Radiation Control Act. Therefore, although there is no specific background radium level, the concentrations at these SI sites are low, consistent with background levels at other Alameda sites, and not risk drivers based on the 10^{-6} criteria.
5	Section 7.3.1 "Data Evaluation", if the radium data from the 1996 sampling event are considered unfit, please provide additional information to support the Navy's position in not including radium as an analyte at the Breakwater Beach sediment sampling event. While the SIR states that "there are no known sources of radium in this area", the 1996 sampling event included radium analysis, while the 2005 sampling event did not. Why didn't the 2005 sampling follow-up on the 1996 sampling as an effort to provide usable data and confirm that radium would not be a risk driver?	Radium was not identified as a potential contaminant of concern at Breakwater Beach based on the 1996 analytical results and the fact that there are no known sources of radium to this area. During the development of DQOs and Offshore Sediment Study Work Plan (Battelle et al., 2005), there was agreement among the agencies that no additional data were needed at Breakwater Beach. The final work plan states that "historical data from Breakwater Beach are sufficient; therefore, no new data collection is proposed." This is consistent with the fact that there would appear to be no transport pathway for radium isotopes from the NAS Alameda buildings were radium dial painting historically occurred to Breakwater Beach (Figure 2-4). To further support the decision not to sample radium at Breakwater Beach in 2005, it should be noted that no unacceptable

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		radium concentrations were detected at Western Bayside in areas where there is a higher potential for contaminants to be present due to nearby potential sources. The following text was added to the end of the Section 7.3.1 bullet related to radium: "The Final Offshore Sediment Study Work Plan for the 2005 sampling event did not include radium sampling at Breakwater Beach because the regulatory agencies concurred that no additional sampling was required. Radium sampling was not conducted in 2005 because the low 1996 radium results in combination with the lack of a transport pathway for radium isotopes from the NAS Alameda buildings where radium dial painting historically occurred to Breakwater Beach resulted in the decision that radium is not a COPC for Breakwater Beach." Other sections were revised as follows. Section 4.3.3 of the Draft Final SI report was clarified as follows. At the beginning of this section, the following sentence was added: "In accordance with the Final Offshore Sediment Study Work Plan (Battelle, et al., 2005b), radium samples were not collected at Breakwater Beach in 2005." The last sentence in Section 4.3.3 was revised, and additional text was added, as follows: "These data are considered unfit for use in estimating potential risks because of the deep surface layer interval and because it was not possible to calculate a 95% UCL for these data due to the small sample size, low detection rates, and high DLs. In addition, detected radium

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		concentrations were low. In the 0-2.7 feet cores collected in 1996, the maximum radium-226 concentration was 1.11 pCi/g. The maximum radium-228 concentration was 0.65 pCi/g. The low detected radium concentrations are consistent with the fact that there would appear to be no transport pathway for radium isotopes from the NAS Alameda buildings where radium dial painting historically occurred to Breakwater Beach (Figure 2-4)."
Comments – from US Fish and Wildlife Service (dated May 9, 2007)		
1	For each of the four sites, Oakland Inner Harbor, Pier Area, Western Bayside, and Breakwater Beach, the Tier 1 screening-level risk estimates for avian receptors, and specifically least terns, identified a number of constituents requiring further evaluation. The exposure estimates in these conservative Tier 1 screenings are based on a site use factor (SUF) of 1.0, i.e., all foraging occurs on-site. However, based on the refined baseline ecological risk assessments (BERA), no further action was recommended for each site based on acceptable ecological risks. The dose model in the BERAs reduces the SUF to a percentage based on the average of 10 years of data on distributional patterns of foraging terns at Alameda Point. The dose from non-site use is calculated from prey concentrations modeled assuming reference sediment concentrations. The least tern foraging distribution data, from which the SUFs are estimated (provided in Table 6-2 of the Remedial Investigation Report), indicate that the major foraging areas comprise a number of Alameda Point sites with elevated concentrations of organic and inorganic constituents sampled from sediments.	The USFWS is correct in noting that the Navy calculated the BERA risk estimates using a range of SUFs and reference (i.e., ambient) sediment concentrations to represent the contribution of offsite areas to the exposure dose, which was in accordance with the Final Offshore Sediment Study Work Plan (Battelle et al., 2005). The Navy acknowledges that this approach does not include the potential contribution of other Alameda offshore sites to the dose estimates. However, the Navy does not concur that this approach clearly underestimates the dose and resultant hazard quotients (HQs). In fact, a SUF of one was also presented in the BERA to provide conservative HQ estimates. An estimate based on a SUF of one bounds the high end of the actual risk posed by the individual sites. While using a SUF equal to one is a conservative exposure scenario, it is unrealistic because it only considers exposure at a single site, which is smaller than the total foraging range of terns studied at Alameda Point (Collins and Feeney, 1995). Furthermore, this is likely an overestimate of potential risk because, based on foraging studies at Alameda Point, the least tern forages approximately 75% of the time within the study areas where the Alameda study sites (IR Site 20, IR Site 24, Western Bayside, Breakwater Beach, and IR Site 17) are located (Collins and Feeney, 1995), and approximately 25% of the time in areas with ambient

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	The site use estimates for Breakwater Beach (Study Area 1), Site 24 (Study Area 4), Western Bayside (Study Areas 7, 8, 9, and 10), Site 20 (Study Area 13/15), and Seaplane Lagoon (Study Area 14) total over 75% of the average yearly foraging distribution (and as much as 93% of the foraging distribution in one of the years). These percentages may be higher as they do not include Study Area 12 or Study Area 3 as being associated with IR sites (see Figure 6-5). The foraging data contradict the assumption in the BERA that reference sediment concentrations are adequate to estimate the non-site dose. The current approach in the BERA for each individual site evaluates risks to terns as if it exists in isolation, surrounded by foraging areas only with ambient background concentrations. This approach clearly underestimates the dose and the resultant hazard quotients [HQ = dose/toxicity reference values (TRV)] upon which the food-chain BERA is based. In order to evaluate the assessment endpoint, i.e., sufficient rates of survival, growth, and reproduction to sustain the avian community in the area, including special-status species, the measurement endpoints must be properly estimated. Assuming all non-site doses for the least tern are based on reference or ambient concentrations results in HQs that are biased low, making it difficult to evaluate potential impacts. More realistic estimates would include the site-specific doses to the least tern calculated with non-site doses modeled from sediment concentrations representative of the specific foraging areas rather than assuming these concentrations are at background or ambient concentrations.	concentrations. Additionally, it should be noted that study areas set by Collins and Feeney (1995) included Alameda offshore study sites, as well as outlying sediment areas. Therefore, terns assessed in the Draft SI report as foraging at Alameda offshore study sites were also foraging in the ambient sediment areas included as part of the study areas. This is likely to result in an overestimate of foraging time spent exclusively at the offshore study sites. Using a conservative SUF of one for each site (IR Sites 20 and 24 and Western Bayside and Breakwater Beach), the least tern high TRV HQs were typically below one. While the low TRV HQs exceeded one for some contaminants, the magnitude of the HQs were generally low (HQ<10). This indicates that even under the most conservative scenario (i.e., SUF=1), effects are possible but not clearly predicted for any of the sites. The Navy recognizes that more realistic estimates of exposure to the least tern would ideally include exposure to: (1) site-specific sediment, (2) sediment from adjacent sites at Alameda Point, and (3) ambient sediments. However, it is not currently possible to determine sediment concentrations representative of all the specific foraging areas where terns feed. Because the actual contribution of site-impacted and ambient foraging areas to the total offsite foraging is highly uncertain, a range of SUFs was provided in the Draft SI report to be conservative and facilitate decisions despite the uncertainty in the offsite concentrations. Theoretically, doses could be calculated for onsite, other IR/offshore sites, and ambient offsite then area-weighted. However, in doing this, the implied assumption is that there will be no action at any of the IR/offshore sites that would reduce the contribution of offsite sources in the future. In the case of Seaplane Lagoon, this assumption is false

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<tr><td></td><td>The Service recommends recalculating the least tern site-specific doses and HQs with more realistic estimates for the non-site doses and re-evaluating the ecological risks associated with these sites based on the revised food-chain BERAs. Recalculating with more realistic estimates is required to properly evaluate the risk to least terns.</td><td>because future sediment concentrations in this area will be reduced by remedial actions. The use of a range of SUFs provides a range of risk estimates to support site-specific risk management decisions, without assumptions regarding future risk management at other sites.To provide an example addressing the USFWS concerns, the Navy has calculated both low and high TRV HQs for lead, total DDx, and total PCBs assuming SUFs for each site from the Draft SI report (2005 surface dataset) and SUFs that account for the contribution of other study sites as follows (see also Table 1):

• "SUF = 1" for each study site; conservative yet unrealistic assumption that all foraging occurs at the specific IR/offshore study site
• "Best estimate SUF plus ambient exposure": IR/Offshore Study site-specific SUF (based on Collins and Feeney, 1995) with outside foraging occurring only in ambient areas
• "Alameda Point": exposure calculated for Alameda Point as a whole, taking into account the combined exposure to the four study sites. This estimate includes Site-specific SUFs and an ambient area SUF (based on Collins and Feeney, 1995; see Table 1).
• "Ambient": estimate of exposure assumes all foraging in areas representative of ambient conditions in the Bay.

In general, the HQs (based on both low and high TRVs) are highest when the SUF = 1 for each site. This is consistent with the observation that this exposure scenario is the most conservative (Table 1). Other estimates of potential risk based on site plus exposure from other foraging locations, whether it is modeled by the "best estimate SUF plus ambient", or the "Alameda Point" estimate, are similar and are lower than when modeled using a SUF of one. Any exceedances of the low</td></tr>
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		TRV-based HQ are low (10 or less) and all the high TRV-based HQs are significantly less than one. In summary, the risk estimates provided in the Draft SI report for Western Bayside and Breakwater Beach are conservative and provide a range of assumptions and estimates that are adequate for making informed decisions. Accounting for the contribution of neighboring offshore sites versus including only ambient exposure has little impact on the risk estimates. The method used in the Draft SI report is sufficient to provide information to the risk managers on which to base decisions regarding remediation. Additional calculations would not appreciably decrease the uncertainty in the risk estimates. Therefore, the Draft Final SI report was not revised.
General Comments – from California Department of F&G, Office of Spill Prevention and Response (dated May 8, 2007)		
1	The evaluation assumes the analytical data collected in 2005 adequately characterize site contamination and are representative of current conditions. However, the text does not clearly describe the results and statistical analysis for locations sampled in multiple years to support the overall conclusion that concentrations are decreasing. Another possible interpretation is that the 2005 results were lower due to the locations sampled, rather than the year in which sampling occurred. For example, the 2005 sample locations for Western Bayside (Figure 3-1) are located further away from the outfalls than the locations where previous sampling occurred. More text and tables should be included to justify the hypothesis proposed in the text before a recommendation for no further action is made for the area.	Figure 3-1, which incorrectly showed the 2005 sampling locations, was revised in the Draft Final SI report. The Navy agrees that apparent temporal trends could be confounded by sample location, and has reviewed and revised all statements about potential trends to ensure they are not misleading.
2	The ingestion rates for the Surf Scoter and the California Least Tern were calculated using the field metabolic rate method (Nagy et al., 1999). More recent regression	The more recent Nagy (2001) equation was used to develop IR_{prey} in the Draft Final SI report and, along with the revised EPCs, the dose models and all associated tables were updated. Updating the prey ingestion

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	equations (Nagy, 2001) predict somewhat higher ingestion rates (5% higher for the Surf Scoter and 17% higher for the California Least Tern). DFG-OSPR recommends the food ingestion rates be updated (Nagy, 2001) and hazard quotients be recalculated.	model or the EPCs did not result in different conclusions for the site.
Specific Comments – from California Department of F&G, Office of Spill Prevention and Response (dated May 8, 2007)		
1	*Page 4-9, Section 4.2.2.1.* It is not clear if toxic equivalency factors (TEFs; Van den Berg et al., 1998) were used to calculated toxic equivalents (TEQs) for polychlorinated biphenyl (PCB) congeners. DFG-OSPR recommends risks associated with PCB TEQs be included.	In accordance with the Final Offshore Sediment Study Work Plan (Battelle et al., 2005), ecological risks associated with exposure to PCBs were evaluated by summing the detected congeners to develop a total PCB concentration. Doses developed from this total PCB concentration were then compared to a total PCB toxicity reference value developed by the U.S. EPA Region IX Biological Technical Assistance Group (BTAG). In the Draft SI report, Page 4-2 in Section 4.1.1 describes the method used to sum PCBs. Page 6-18, Section 6.3.2.2 describes the development of TRVs.
2	*Page 6-13, Section 6.3.1.2.* Please clarify if the food ingestion rates for the Surf Scoter are on a wet or dry weight basis. Please justify why surface water ingestion was not included in the exposure calculation.	As described on Page 6-13, food ingestion rates for the scoter were developed on a dry weight basis. As discussed in Section 6.2.2, the primary source of exposure is sediment. Because surface water was not identified as a significant exposure medium, as documented in the Final Offshore Sediment Study Work Plan, surface water ingestion in surf scoter was not evaluated in the exposure calculation. Additional rationale for surface water not being a significant exposure medium follows. Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/1994 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996b) and are summarized in Table 7-9 of that report. Total metals concentrations were below detection limits, with the exception of chromium and zinc, which were detected at

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		concentrations less than the chronic and acute marine ambient water quality criteria (AWQC) (Tables D-3.1 and D-3.2 in PCR, 1996b). Dissolved metals were never detected in surface water. Metals detection limits (total and dissolved) were adequate for most of the constituents (exceptions included copper, mercury, nickel, and silver) to allow comparison to AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside were all not detected (see Tables D-3.2 and 3.3 of PRC, 1996b), although elevated detection limits preclude comparisons of most pesticides to AWQC. Based on these data and as specified in the approved Final Work Plan for the Alameda offshore sites, surface water is not a significant exposure medium to chemical contaminants.
3	*Page 6-16, Section 6.3.2.1.* Please provide more detail on the contaminants of potential ecological concern (COPEC) selection process. For example, sediment toxicity benchmarks (e.g., ER-Ls and ER-Ms) are primarily for protection of benthic invertebrates and are not adequate for evaluating toxicity to birds and mammals. Please describe how the COPEC selection process evaluated potential risks to birds and mammals.	Section 6.3.3.and 6.3.3.2 (Page 6-19) of the Draft SI report present the results of the screening-level risk estimate for birds. A formal COPEC screen was not conducted for birds, and the maximum sediment concentration for a compound detected in each dataset was modeled to provide an estimate of potential risk. As described in Section 6.3.3, when the screening dose exceeded the low TRV, it did not necessarily indicate that there was a potential risk, rather that there was an indication that further evaluation was warranted. These compounds were then evaluated further in the refined, baseline risk assessment.
4	*Page 6-19, Section 6.3.3.* There is no mention of the calculation of hazard indices for chemicals with a similar mechanism of action, such as organochlorine pesticides. DFG-OSPR recommends that cumulative risks for COPECs be evaluated before a recommendation for no further action is made for the site.	In accordance with the Final Offshore Sediment Study Work Plan (Battelle et al., 2005), a COPEC-specific Hazard Quotients (HQ) using the lowest Toxicity Residue Value (TRV) listed in the Region 9/BTAG TRVs was calculated. This is a conservative approach that is considered protective of the selected receptors of concern. Additionally, it was agreed that if HQs are close to one for a number of chemicals with similar modes of toxicity in similar organ systems, they would be examined further for potential cumulative toxicity impacts (i.e. a Hazard Index approach may be applied in these situations).

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		The HQs calculated for the organochlorine pesticides were generally many orders of magnitude lower than one, so the development of HIs was not required.
5	*Pages 6-23 and 6-27, Sections 6.4.2.1 and 6.4.2.2.* The conclusion that the bioassay results were inconsistent across species and endpoints should not reduce the confidence in the results as individual lines of evidence. Many factors likely influenced the responses of the three species, including species sensitivity to different chemicals, exposure media, exposure duration, and endpoints measured. Amphipods and polychaetes were both exposed to bulk sediment, but for different times. Sea urchin larvae were exposed to sediment: water interface, rather than bulk sediments, and were assessed for embryo development. Please revise the text to address potential sources of variability between these bioassays.	The issues raised by the reviewer are discussed in the bullet on page 6-27 of the Draft SI report.
6	*Page 6-30, Section 6.4.3.2.* Table 6-23 should indicate whether sediment and fish results are on a dry or wet weight basis.	Table 6-23 was revised to indicate that the sediment and fish results are on a dry weight basis.
7	*Pages 7-10, Section 7.4.2.1.* It is not clear why non-detected concentrations of polycyclic aromatic hydrocarbons (PAHs) and PCBs were set to zero. This is not standard risk assessment practice. Please revise the text to more clearly explain how the exposure was underestimated.	For all individual compounds, total PAHs, and total DDx, non-detected concentrations were estimated at one-half the detection limit. For total PCBs, the sums were based on detected concentrations. As described in Section 4.1.1, this method is consistent with the method used by the State Water Resources Control Board (SWRCB) to calculate summed concentrations of constituents for ambient conditions within San Francisco Bay and has been used in other risk assessments conducted within San Francisco Bay. To provide a more detailed discussion of the potential uncertainty associated with this issue, the text in Section 7.4.2.1 was revised as follows(added text in bold): "When an individual **PCB congener or Aroclor** was not detected, it

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		was not incorporated into the sum (i.e., the value assigned to the individual constituent was zero). Treating non-detected constituents of sums as zero may result in an underestimate of exposure**, as there may be concentrations of these compounds at levels below the detection limit. By assuming a concentration of zero for non-detects, the summed concentrations estimated may be lower than the true concentration in the sediment.** PCBs were summed in this manner because of detection limit issues associated with the Aroclor data collected in 1993/1994 at Western Bayside. For all later data sets from Western Bayside and Breakwater Beach, the summing of Total PCBs using zero for non-detected concentrations had an insignificant impact on the estimated total concentration, as the detection limits in the most recent data sets are very low. Therefore, while the 1993/1994 Total PCB concentrations from Western Bayside may be underestimated, in general and for the more relevant current data set, the use of zero in the sums does not impact the estimate." During further review of the data as part of the comment resolution process, it was noted that there were inconsistencies in the handling of summed constituents, specifically for total PCBs, in the Draft SI Report. In some instances, total PCBs were reported with zero for the non-detects, and in other places with one-half the detection limit for non-detects. To address this inconsistency, the report has been revised to ensure that all summed constituents used in the report are consistent across the Nature and Extent, Human Health and Ecological Risk Assessment Sections. As described herein, total PCBs were based on detected concentrations.
8	*Appendix C.* A more recent analysis of bioaccumulation factors (BAFs) is available (USEPA, 2000). DFG-OSPR recommends this reference be utilized to identify BAFs or equations for deriving BAFs. BAFs are also available from	It is recognized that a number of models and datasets exist to model tissue concentrations from sediment concentrations. It is also understood that there are uncertainties associated with these models. To minimize these uncertainties, bioaccumulation factors (BAFs)

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	the literature, the compilations of BAFs by USEPA (2000) and the BSAF online database (http://www.wes.army.mil/el/bsaf/bsaf.html). Due to the uncertainties associated with these exposure models (i.e., they may lead to over- or under-estimation of risk), model validation using site-specific biota or bioassays is recommended for the BERA.	developed for invertebrate (*Macoma nasuta*) and fish tissue collected at Alameda Point (IR Site 17) were used. While these data may not be specific to Western Bayside or Breakwater Beach sediments, they were conducted with sediments from the general area and with ecologically relevant species and likely contain less uncertainty than other more generic BAFs and models.
Conclusions – from California Department of F&G, Office of Spill Prevention and Response (dated May 8, 2007)		
1	As detailed above, the report has several areas of concern to DFG-OSPR that should be addressed. DFG-OSPR recommends that the Navy provide a revised report that clearly addresses these concerns. Another review of the revised document will be required before the document may be accepted by DFG-OSPR.	The Draft Final SI Report incorporates revisions based on CDFG general comment #2 and specific comments #6 and 7, as described above.
General Comments – from San Francisco Bay Water Board (May 8, 2007)		
1	Please replace references to RWQCB with either the San Francisco Bay Water Board or Water Board.	All references to RWQCB in the Draft Final SI report were replaced with the San Francisco Bay Water Board.
Specific Comments – from San Francisco Bay Water Board (May 8, 2007)		
1	Page iii – Executive Summary – Last complete sentence – Please include a reference for document titled Offshore Sediment Study Workplan.	The Executive Summary does not contain any references or acronyms. This document is referenced later in the report.
2	Page 4-10 – Section 4.2.3 – Distribution of Radionuclides at Western Bayside – This section mentions the maximum Ra-226 concentration was 0.45 pCi/g, but does not compare Ra-226 contaminant levels with screening levels or risk-based standards. Please include this comparison in this section.	The low radium concentrations (Table 4-2) are consistent with background levels used at other Alameda Point sites. Table 5-25 of the Draft SI report shows that for Western Bayside, the cumulative RME risk for radium-226 is 3.38×10^{-7} and for radium-228 is 8.43×10^{-7}. The Western Bayside radium concentrations and risks were considerably lower than at Seaplane Lagoon (cumulative RME risk for radium-226 of 9.1×10^{-6} and for radium-228 of 1.9×10^{-6}), where all agencies agreed that radium was not a problem. The Site 17 ROD signed in October 2006 (DON, 2006a) documents that "the RI concluded that there was no unacceptable risk to human health or the

Comment No.	Comment	Response
		environment associated with radium in sediments." The maximum concentration of radium detected during the RI at Seaplane Lagoon was 3.92 pCi/g of radium-226 (DON, 2006a). The measured values of radium at Western Bayside were well below the 5 pCi/g concentration cited as a potential benchmark for radium in the Alameda Point IR Site 17 RI Report based on the Uranium Mill Tailings Radiation Control Act. Therefore, although there is no specific background or agreed-upon radium screening value, the radium concentrations are low, consistent with background levels at other Alameda sites, and not risk drivers based on the 10^{-6} criteria. Since Section 4.2.3 is related to the distribution of radionuclides, the text was not revised.
3	Appendix A – Figure A-136 – Sample concentration is shown as 52.333333 ug/kg. Please revise to appropriate number of significant figures. Also correct similar issue in Figure A-144 as well as in any other Figures showing improper number of significant figures.	The bubble plot legends were revised in the Draft Final SI report to correct the number of significant figures.

Table 1: Comparison of Low and High TRV-Based HQs Using Different Methods of Calculating Exposure

Least Tern Using 2005 Surface Data with Total PCB Data (Non-detects = 0)									
Low TRV					High TRV				
Site Area of Concern	SUF = 1[1]	Best Estimate SUF plus ambient exposure[2]	Alameda Point[3]	Ambient[4]	Site Area of Concern	SUF = 1[1]	Best Estimate SUF plus ambient exposure[2]	Alameda Point[3]	Ambient[4]
Lead					Lead				
IR 20	9.89	6.24	5.68	6.20	IR 20	0.02	0.02	0.01	0.02
IR 24	10.70	6.33	5.68	6.20	IR 24	0.03	0.02	0.01	0.02
WBS	4.93	5.47	5.68	6.20	WBS	0.01	0.01	0.01	0.02
BWB	7.21	6.24	5.68	6.20	BWB	0.02	0.02	0.01	0.02
Total PCBs					Total PCBs				
IR 20	1.08	0.14	0.44	0.13	IR 20	0.09	0.01	0.04	0.01
IR 24	1.36	0.16	0.44	0.13	IR 24	0.11	0.01	0.04	0.01
WBS	0.42	0.30	0.44	0.13	WBS	0.03	0.02	0.04	0.01
BWB	2.76	0.23	0.44	0.13	BWB	0.23	0.02	0.04	0.01
Total DDX					Total DDX				
IR 20	2.04	0.97	1.12	0.96	IR 20	0.02	0.01	0.01	0.01
IR 24	1.41	0.97	1.12	0.96	IR 24	0.02	0.01	0.01	0.01
WBS	1.17	1.08	1.12	0.96	WBS	0.01	0.01	0.01	0.01
BWB	1.38	0.97	1.12	0.96	BWB	0.02	0.01	0.01	0.01

Notes
WBS = Western Bayside; BWB = Breakwater Beach
1. SUF is set at 1 for each site. Assumes 100% of the time the tern is foraging at that site.
2. Exposure is assumed to be the best estimate SUF (as reported in the literature) for each site plus ambient exposure.
3. Alameda exposure was estimated using the following SUFs based on a conservative interpretation of foraging time in Collins and Feeney (1995):
IR 20 = 0.012; IR 24 = 0.029; WBS = 0.574; BB = 0.038; Ambient = 0.347
This scenario assumes no action at any of the four sites (IR 20, IR 24, WBS, and BB) and accounts for the contribution of other IR Sites.
Seaplane Lagoon was excluded due to planned remediation.
4. Assumes 100% exposure to ambient conditions in San Francisco Bay

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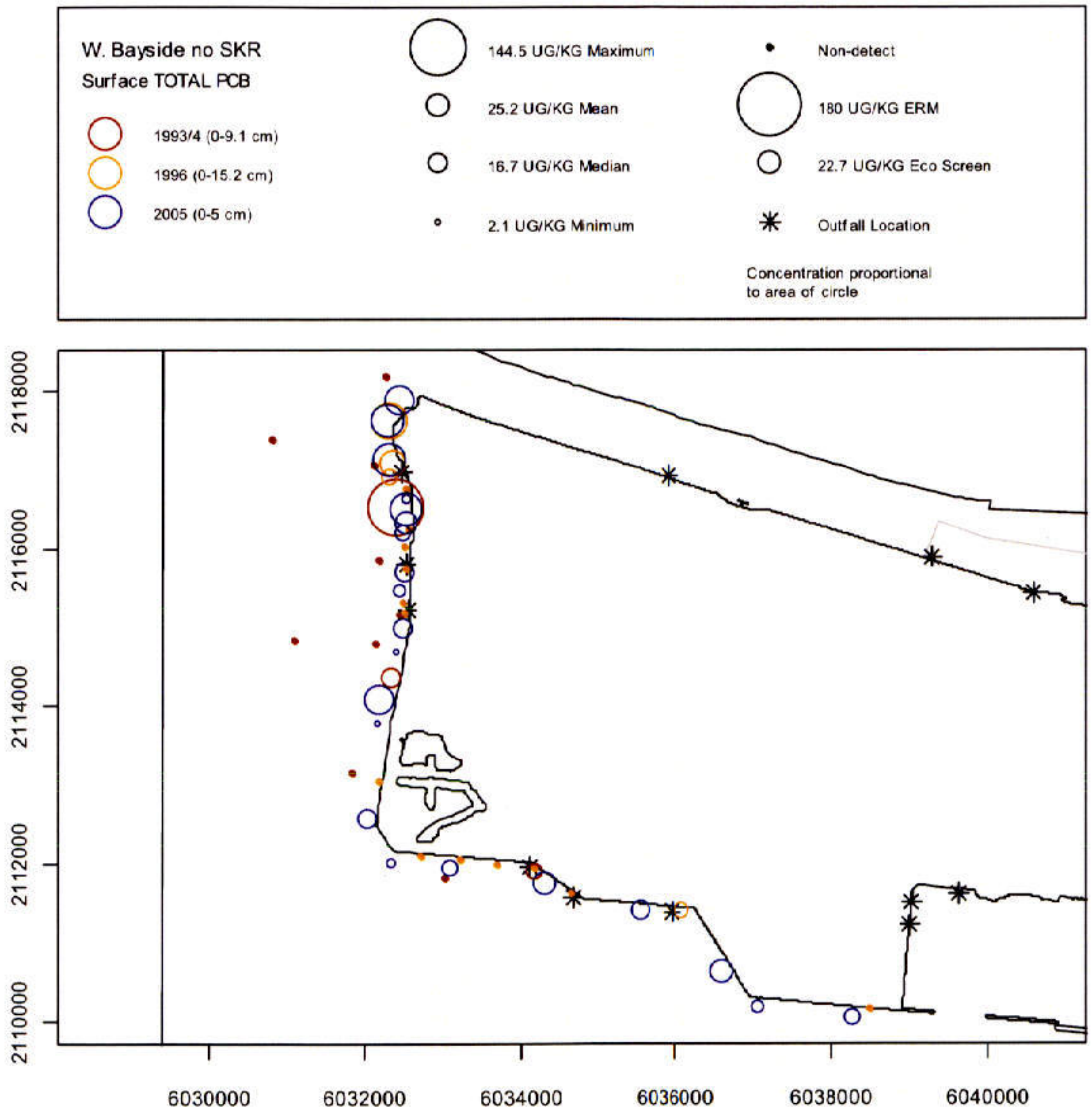

Figure RTC-1. Total PCBs: Sum of detected Aroclors (93/94 and 96) or 2X Sum of 20 Measured Congeners (2005)

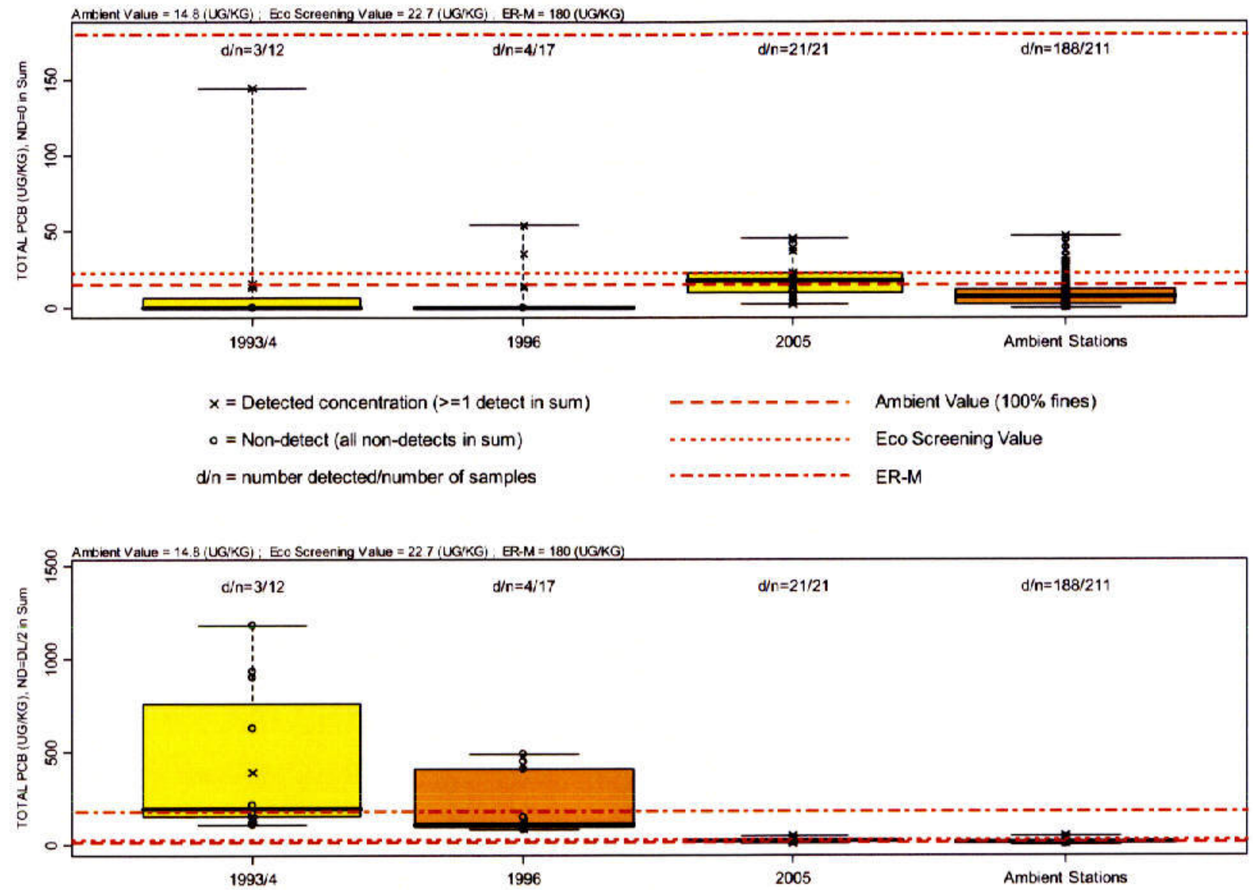

Figure RTC-2. Box Plots of Total PCBs. Note: open circles are non-detects.

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Response to DTSC RTC Comments dated August 8, 2007, from Ms. Dot Lofstrom
Western Bayside and Breakwater Beach SI

DTSC RTC Comment 1:
DTSC, CFG and CDPH have reviewed the RTCs and have no further comments except for GSU Comment 3, a request to analyze sediment samples for dioxin at Western Bayside. The Navy's primary response is that dioxin analysis was not requested either during the workplan review or during the conference call. We appreciate that it would have been better if this concern had been voiced sooner. Nonetheless, dioxin analysis should have occurred due to the proximity of the open burn area at Site 1, this is a data gap, and our comments on the Draft Final will reflect that. I wonder if dioxin sampling of the offshore sediments could be linked with Site 1 somehow?

Original DTSC GSU Comment 3: Dioxins may have formed during burning operations that occurred at the northwest corner of Alameda Point (see page 2-2, last paragraph). Material from the burn area was reportedly pushed into the bay with a bulldozer that expanded the shoreline westward. Recommendation: Consider testing sediment samples from the bay for dioxins.

Navy Response: Additional information on dioxin concentrations at the Site 1 burn area in the northwest corner of Alameda Point was compiled and added to the RTC and the Draft Final SI report. It was not the Navy's intent to indicate in the previous draft RTC that agency concurrence on the 2005 sediment study work plan was the primary reason that sediment samples were not analyzed for dioxin at Western Bayside. The Navy's response was revised as shown below to emphasize that dioxins are not a primary driver for remediation at IR Site 1, the location of the former Burn Area, and to provide further detail as to the dioxin concentrations at that site. Based on this information, particularly the dioxin concentrations in the burn area itself, dioxin sampling is not considered necessary at Western Bayside. The new RTC text is presented in bold font below (followed by the previous, unchanged RTC text). Figure 4-1 (attached) shows the approximate locations of the soil cores sampled for dioxin at the Site 1 burn area.

The following new text (in bold) has been added to Section 2.3.1.1 of the SI report.

"In March 2005, four soil borings (IR1-EAD-SOC 13, 14, 15, and 16) were completed within the Burn Area at IR Site 1, with two of the borings being completed as close to within 20 ft of the shoreline as possible while avoiding interference from the large riprap protective covering present along the shore of IR Site 1 (Battelle, 2006). Soil cores were collected at four depth intervals (0 – 2 ft, 2 – 10 ft, 10 – 20 ft, and 20 – 30 ft). Fifteen individual PCDD/PCDF congeners were analyzed in all Burn Area soil samples because they represented the primary data gap that was to be addressed during the March 2005 survey. Seven of these individual PCDD/PCDF congeners were detected in each of the soil samples collected from the four IR Site 1 Burn Area soil sampling locations. The 2,3,7,8-TCDD toxic equivalents (TEQs) for surface soils at the Burn Area ranged from 27.37 ng/kg (dry weight) to 78.76 ng/kg. These concentrations are well below the U.S. EPA cleanup level (1 ppb or 1 µg/kg [TEQs]) for dioxin in residential soils at Superfund and RCRA cleanup sites (U.S. EPA, 1998). This recommended level for surface soil is generally considered protective of human health and the environment, and is based on the direct contact exposure pathway. Therefore, while dioxins were detected in soils at the IR Site 1 Burn Area in 2005 (Battelle, 2006), they are a ubiquitous contaminant and are not one of the drivers (i.e., TPH, PAHs, pesticides, PCBs, metals, and radium) for the proposed remediation of soils at IR Site 1 (DON, 2006b). The IR Site 1 current burn area does not extend into the bay or even onto the beach area."

In addition, during finalization of the Final Offshore Sediment Study Work Plan (Battelle et al., 2005), which describes the analytes and locations of the 2005 sampling effort at Western Bayside, no request was made by the agencies to analyze dioxin in the offshore sediment samples collected at Western

Bayside in 2005. The agencies reviewed the draft work plan, a conference call was held on March 28, 2005 to discuss various issues associated with the received comments, and the agency comments were addressed in the final version of the document (Battelle et al., 2005, Appendix E, Response to Agency Comments on the Draft Work Plan/ Meeting Minutes). An additional sampling location (WBC-17) was added to the northwestern corner of near the IR Site 1 Burn Area in response to agency comments, but there was no request for dioxin sampling.

Battelle. 2006. Field Summary Report, Expedited Field Sampling, IR Sites 1 & 15, Alameda Point, California. Prepared for Base Realignment and Closure, Program Management Office West. March 29, 2006.

Battelle, BBL, and Neptune & Co. 2005. Final Offshore Sediment Study Work Plan at Oakland Inner Harbor, Pier Area, Todd Shipyard, and Western Bayside Alameda Point, California. Prepared for Base Realignment and Closure Program Management Office, San Diego CA.

United States Department of the Navy (DON). 2006b. Proposed Plan for IR Site 1, 1943 - 1956 Disposal Area, Former NAS Alameda. September 2006.

United States Environmental Protection Agency (U.S. EPA). 1998. Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites. OSWER Directive 9200.4-26. April 13.

DTSC RTC Comment 2:

The other troubling point is that Table 4-1 and 4-2 indicates that PAHs were analyzed at concentrations that exceed the ER-M for Western Bayside, even though the text states that PAHs were not detected above the ER-M.

Navy Response: Table 4-1 of the Draft SI report indicates that no PAHs exceeded ER-Ms in the surface sediment at Western Bayside, and the report text reflects that. Table 4-2 of the Draft SI report indicates that some PAHs exceeded ER-Ms in the subsurface sediment at Western Bayside. The text in Section 4.2.2.2 of the Draft Final SI report was revised to specify any organic constituents in subsurface sediment that exceeded ER-Ms at Western Bayside. This edit was made in response to U.S. EPA Specific Comment #15, which asked that the report text in Section 4.3.2.2 (Breakwater Beach) include a discussion of constituents in subsurface sediment that exceeded ER-M values. The same edit was made to the discussion of constituents in subsurface sediment at Western Bayside, and the revised text in Section 4.2.2.2 follows.

"Summaries of 2005 organic results for the 0-5 cm, 5-25 cm, and 25-50 cm depth intervals are presented in Table 4-2. Box plots for organic constituents at depth are presented in Appendix A. Concentrations of PAHs were generally higher in the 5-25 cm depth interval than in the surface sediment (Figure 4-12), and were greatly elevated at this depth interval at location WBC-**19, where a few individual PAHs exceeded their ER-Ms at this depth**. The reasons for the elevated PAHs in the subsurface sediment at this location are not clear. **This sampling location is not adjacent to an outfall, but past uses may have been a contributor to the PAHs at this location.** Total PCB concentrations appeared to increase slightly with depth, as shown in Figure 4-13, **but detected concentrations of Total PCBs did not exceed ER-M at any station or depth**. Total DDx concentrations are relatively uniform across depths, while tributyl tin concentrations generally decrease with depth. **4-4'DDT exceeded its ER-M at one location (WBC-22) in the 25 – 50 cm layer.**

Six pesticides other than the DDx compounds were detected in one or more subsurface samples, **but these pesticides did not exceed ER-M thresholds.** *gamma*-chlordane and *alpha*-chlordane both indicate decreasing concentrations with depth. Dieldrin, endosulfan II, and endrin aldehyde were all detected slightly more frequently in subsurface samples than in surface samples, but maximum detected concentrations were in the 0 – 5 cm surface interval. Endosulfan I, which was not detected in surface sediments, was detected in one subsurface sample in the 5-25 cm depth interval."

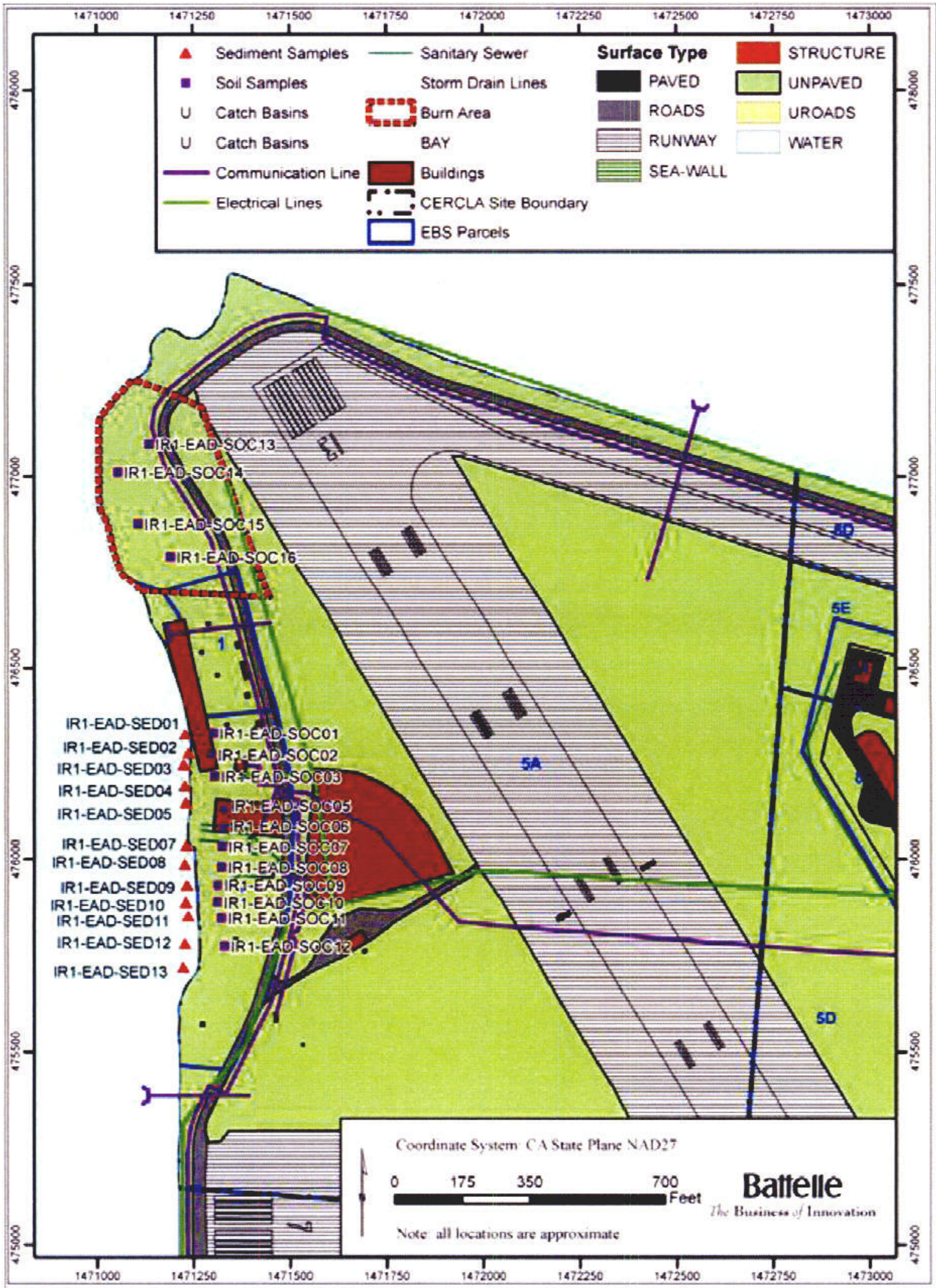

Figure 4-1. Expedited Soil and Sediment Sampling Locations at Burn and Beach Areas at IR Site 1. From Battelle, 2006.

Response to U.S. EPA RTC Comments dated August 8, 2007, from Ms. Tran
Western Bayside and Breakwater Beach SI

U.S. EPA Comment on RTC to General Comment 1: In addition to providing revisions to the figures, latitude and longitude coordinates for each of the sample locations as well as coordinates for the outfall locations should be provided. It is not clear that the figures provided are scaled representations of each of these locations in geographic relation to one another. Please provide latitude and longitude coordinates for each of the sampling locations and for the outfalls. Also, please provide a map, drafted to scale, that includes all of the sample and outfall locations.

The second paragraph of the response contains an unwarranted assumption. EPA concurrence on the Work Plan and sampling locations should not be construed to indicate automatically that the extent of contamination will be defined; the analytical results from the proposed sampling are necessary to evaluate whether delineation of contamination is adequate.

The remainder of this response also has an unresolved issue in that the burden is on the Navy and its contractor to provide accurate information and figures. If Regulatory Agency misconceptions result from inaccurate representation of data, corrections should be made in the subsequent version with the understanding that the new data presentations and figures then would be reviewed. This issue includes the incorrect calculation of total polychlorinated biphenyl (PCB) concentrations, the use of detection limits for these calculations, and the revised figures referenced in the response. When the Draft Final Report is issued, revised text, tables, and figures will be reviewed.

Navy Response: The bubble plots in Appendix A of the Draft SI report were scaled and accurate, with the exception of the Total PCBs plots (please see Draft RTC and revised plots submitted on July 30, 2007). Based on EPA comments on the Draft SI report, the locations for the outfalls were added to the bubble plots in Appendix A of the Draft Final SI report. Based on U.S. EPA comments on the Draft SI report, latitude and longitude coordinates for each of the sample locations and for the outfalls at Western Bayside and Breakwater Beach were added to Appendix A of the Draft Final SI report.

The sampling maps for each site (Figures 3-1 and 3-2) in the draft SI report already included outfall locations, and were created to scale. These maps list the latitude and longitude coordinates along the map border and include a distance scale in feet. Figure 1-2 of the Draft SI report shows both sites in geographic relation to one another and was revised to show the boundaries for each site. Therefore, additional sampling location figures are not required for the Draft Final SI report.

The error in calculation of total PCB concentrations was revised in all text, tables, and figures in the Draft Final SI report. Revised Tables 4-1, 4-2, 4-5, and 4-6 are included with this response for your review, as well as revised box and bubble plots for total PCBs at Western Bayside and Breakwater Beach. The Response to General Comment #1 in the Draft RTC was revised to emphasize that the sampling results from these sites show that they have been adequately characterized to support the recommendation of no further action.

U.S. EPA Comment on RTC to General Comment 2: The response partially addresses the comment. It is still unclear if the RMP (Regional Monitoring Program) and BPTCP (Bay Protection and Toxic Hot Spot Cleanup Program) datasets are statistically similar if/when used together. Please provide justification that RMP and BPTCP data are statistically similar if they are used together.

Navy Response: The ambient values used in the Draft Western Bayside and Breakwater Beach SI report are those developed by the San Francisco Bay Water Board (1998), as described in Section 4.1.2 of the SI report. The cited document, entitled "Ambient Concentrations of Toxic Chemicals in Sediments", summarizes the statistical approach for the determination of ambient threshold values using the combined RMP and BPTCP dataset (San Francisco Bay Water Board, 1998). A complete description of the statistical methods used in the development of the ambient thresholds can be found in Smith and Riege (1998), and summarizing the statistical results of that paper in the SI report seems redundant. The text in Section 4.1.2 of the Draft Final SI report has been updated as follows:

"Regulatory guidance from the San Francisco Bay Water Board established ambient threshold values (ambient background values) for the ambient concentrations of toxic chemicals in San Francisco Bay sediments (San Francisco Bay Water Board, 1998). **A complete description of the statistical methods employed in the development of these ambient threshold values can be found in Smith and Riege (1998).** The ambient threshold concentrations were calculated from analytical chemistry results of sediments collected from the least impacted portions of San Francisco Bay, located away from point and non-point sources of chemical contamination. **All stations sampled by RMP and BPTCP near potential sources of contamination were excluded. The list of stations classified as ambient and used in the calculation of ambient threshold values were published in Table 2 of the regulatory guidance (San Francisco Bay Water Board, 1998). The only chemical for which two separate thresholds were calculated was chromium for which a difference between RMP and BPTCP concentrations was detected and was attributed to the difference in extraction procedures. For other chemicals, differences in the extraction procedure "did not appear to noticeably affect the chemical concentrations" (Smith and Riege, 1998). To maintain consistency with the protocol established in the regulatory guidance, the data used in plots and background comparisons to represent ambient conditions were from the combined set of stations classified as ambient, with the exception of chromium for which the data with the comparable extraction method were used."**

San Francisco Bay Water Board. 1998. *Ambient Concentrations of Toxic Chemicals in Sediments.* Prepared by T. Gandesbery and F. Henzel of the San Francisco Bay Water Board. April.

Smith, R.W. and L. Riege. 1998. *San Francisco Bay Sediment Criteria Project Ambient Analysis Report.* March 1998 (revised April, 1999).

U.S. EPA Comment on RTC to General Comment 3: Since revised, scaled bubble plots that include the outfall locations have not yet been provided, responses about the nature and extent of contamination has been delineated cannot be evaluated. These responses will be evaluated when the revised figures have been provided.

Navy Response: The bubble plots in Appendix A of the Draft SI report were scaled and accurate, with the exception of the Total PCBs plots (provided with the RTCs), but all bubble plots were revised in the Draft Final SI report to add the outfall locations in accordance with U.S. EPA's comment. Bubble plots with the addition of the outfall locations for the specific constituents referenced in U.S. EPA General Comment #1 (arsenic, copper, mercury, and zinc [antifouling agents], total PCBs and lead [paint constituents], and 4,4'-DDT) are attached to this response. The approximately 200 bubble plots that were revised to include the location of outfalls at each site precludes including a complete copy of the revised plots with the e-mailed response.

U.S. EPA Comment on RTC to Specific Comment 12: It is unclear that the "misconception" described in this response would have the effect suggested. If the figures that were provided in the draft version of this report were produced to a consistent scale it is unclear how there is a misconception about the proximity of sample locations to the out falls. As previously requested, please provide latitude and longitude for all sampling locations as well as a map, to scale, with the location of each of the outfall and sampling points.

Navy Response: Latitude and longitude coordinates for each of the sample locations at Western Bayside and Breakwater Beach, as well as coordinates for the outfall locations, were added to Appendix A of the Draft Final SI report. The sampling maps for each site (Figures 3-1 and 3-2) in the draft SI report already included outfall locations, and were created to scale. These maps list the latitude and longitude coordinates along the map border and include a distance scale in feet. In addition, Figure 1-2 of the Draft SI report shows both sites in geographic relation to one another and was revised to show the boundaries for each site. Therefore, additional sampling location figures are not required for the Draft Final SI report.

U.S. EPA Comment on RTC to HHRA Comment 3: The response to this comment comprised three responses that were intended to provide qualitative rationale for excluding surface water as a direct contact media for potential exposure. Items (1) and (2) provided acceptable lines of evidence to support excluding this medium from quantitative analysis, however, in future documents, surface water exposures should be quantified to provide clear justification that this medium does not pose significant risks relative to other media. In addition, item (3) provides insufficient rationale for excluding the surface water exposure pathway. Specifically the first half of the item (3) response provides adequate support to show that dilution does result in relatively low concentrations or below detection levels; however, inappropriate criteria were used to demonstrate this. The original comment addressed potential human exposure and item (3) is using ecological screening levels to demonstrate that surface water is not a medium of concern from a human health perspective. Please revise item (3) to include a comparison of surface water detections to human health based criteria or guidance (i.e., ambient water quality criteria, preliminary remediation goals (PRGs) for tap water, etc.) to place the limited detected levels in surface water in proper perspective.

Navy Response: In accordance with U.S. EPA HHRA Comment #3, the additional information regarding the surface water exposure pathway was added to Section 2.3.1.3 (Exposure Media) of the Draft Final SI report. This section describes the exposure media component within the conceptual site model (CSM) for Western Bayside that serves as the basis for the ecological and human health risk assessments. Since this section describes the overall CSM for this site, it is appropriate within this section to use aquatic life ambient water quality criteria (AWQC) to demonstrate that surface water is not a medium of concern to ecological receptors at Western Bayside. The text in the Draft Final SI report was revised to clarify that comparisons are being made to aquatic life AWQC, and comparisons of surface water concentrations to human health AWQC were added to Section 2.3.1.3 of the Draft Final SI report (see below).

"(3) Tidal action and San Francisco Bay currents result in rapid dilution and/or transport of constituents. Surface water data were collected from three locations (B04, B08, and B12) in Western Bayside as part of the 1993/1994 ecological assessment of Alameda Point. These data are reported in the Alameda Naval Air Station Operable Unit 4 Ecological Risk Assessment (PRC, 1996b) and are summarized in Table 7-9 of that report. Total metals concentrations (Tables D-3.1 and D-3.2 in PCR, 1996b) were below detection limits, with the exception of chromium and zinc, which were detected at concentrations less than **aquatic life and human health** ambient water quality criteria (AWQC) **(U.S. EPA, 2006; San Francisco Bay Water Board, 2007)**. Dissolved metals were never detected in surface water. Metals detection limits (total and dissolved) were adequate for most of the constituents to allow comparison to **aquatic life** (except for copper, nickel, and silver) and **human health (except for arsenic)** AWQC. Concentrations of PAHs, pesticides, PCBs, and organotins in surface water collected at Western Bayside (see Tables D-3.2 and 3.3 of PRC, 1996b) were all not detected, although elevated detection limits preclude comparisons of most pesticides **and PCBs** to **aquatic life** AWQC. Elevated detection limits preclude comparisons of some PAHs, pesticides, **and PCBs** to **human health** AWQC. Based on these data, and as specified in the approved Final Work Plan for the Alameda offshore sites, surface water is not a significant exposure medium to chemical contaminants."

In addition, Section 5.2.1 (Exposure Pathways and Receptors) of the Draft Final SI report was updated to indicate that the primary chemicals of concern are hydrophobic chemicals, which are primarily associated with sediments, and exposure to these compounds through contact with surface water are negligible compared to those in sediments.

"Direct contact with surface water was identified as an incomplete pathway, and water is not considered a primary exposure medium due to the rapid dilution of chemicals resulting from tidal action and San Francisco Bay currents (**see Section 2.3.1.3 for more detail**). In addition, activities associated with shellfish collection would occur at low tide, further limiting contact with surface water. **The chemicals of concern are persistent, hydrophobic chemicals primarily associated with the sediments. As a result, water concentrations and, therefore, exposures of these compounds are negligible compared to sediments.** Consequently, exposures via surface water were not proposed for quantitative evaluation."

PRC Environmental Management, Inc. (PRC). 1996b. Naval Air Station Alameda, California Operable Unit 4 Ecological Risk Assessment, Revision 2. Prepared for Naval Facilities Engineering Command, Engineering Field Activity West. July.

San Francisco Bay Water Board. 2007. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), Marine Water Quality Objectives for Toxic Pollutants for Surface Waters. January 18, 2007.

United States Environmental Protection Agency (U.S. EPA). 2006. Current National Recommended Water Quality Criteria. Available at: http://www.epa.gov/waterscience/criteria/nrwqc-2006.pdf.

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside

Analyte	1993/4			1996			2005			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	12/12	8.167	39.33	1/10	[0.39]	0.86	4/22	[0.015]	0.31	2[f]	NA	25	410
ARSENIC	12/12	3.7	12.33	8/10	[1.15]	4.1	22/22	2.39	5.85	8.2	15.3	70	0.25
CADMIUM	3/12	[0.125]	0.214	0/10	[0.025]	[0.03]	21/22	[0.0245]	0.306	1.2	0.33	9.6	450
CHROMIUM	12/12	95	157.5	10/10	23.9	38	22/22	27.2	89.8	81	112	370	450
COPPER	12/12	9.8	47.67	10/10	5.1	24	22/22	4.48	32.3	34	68.1	270	41000
LEAD	12/12	6.667	25.75	10/10	6	26.2	22/22	3.4	30.8	46.7	43.2	218	800
MERCURY	12/12	0.145	0.847	6/10	[0.015]	0.12	21/21	0.0075	0.366	0.15	0.43	0.71	310
NICKEL	12/12	30.67	90	10/10	21.1	35.1	22/22	18.4	55.8	20.9	112	51.6	20000
SELENIUM	3/12	[0.125]	0.275	0/10	[0.375]	[0.46]	0/22	[0.06]	[0.185]	0.7[f]	0.64	1.4	5100
SILVER	0/12	[0.25]	[0.25]	0/10	[0.075]	[0.09]	22/22	0.021	1.17	1	0.58	3.7	5100
ZINC	12/12	38	130	10/10	26.3	65.9	22/22	16.3	80.4	150	158	410	100000
Pesticides and PCBs (ug/kg)													
Total PCB[g]	3/12	13	144.5	4/17	13	54	21/21	2.14	45.26	22.7	200[h]	180	NA
Total 4,4-DDx[i]	4/12	[4.463]	20.94	2/17	[3]	14.5	21/21	0.435	12.79	1.58	7	46.1	NA
Total DDx	0/0	NA	NA	0/0	NA	NA	21/21	0.51	15.96	NA	NA	NA	NA
2,4'-DDD	0/0	NA	NA	0/0	NA	NA	4/21	[0.02]	2.58	NA	NA	NA	10000
2,4'-DDE	0/0	NA	NA	0/0	NA	NA	2/21	[0.015]	0.57	NA	NA	NA	7000
2,4'-DDT	0/0	NA	NA	0/0	NA	NA	2/21	[0.02]	1.03	NA	NA	NA	7000
4,4'-DDD	2/12	[1.35]	14.15	1/17	[1]	2.3	21/21	0.33	6.36	2[f]	NA	20	10000
4,4'-DDE	2/12	[1.35]	5.263	1/17	[1]	1.2	20/21	[0.015]	2.61	2.2	NA	27	7000
4,4'-DDT	1/12	[1.488]	2.133	2/17	[1]	11	18/21	[0.015]	3.82	1	NA	7	7000
ALDRIN	0/12	[0.375]	[6.75]	0/17	[0.5]	[3.15]	1/21	[0.01]	0.31	0.2[j]	NA	NA	100
ALPHA-BHC	0/12	[0.3333]	[52.33]	0/17	[0.5]	[3.15]	1/21	[0.02]	0.4	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	0/12	[0.3333]	[0.7]	1/17	[0.5]	2.2	4/21	[0.015]	1.42	0.5[f]	NA	6	6500
DIELDRIN	0/12	[0.7375]	[11.92]	0/17	[1]	[6]	3/21	[0.015]	1.13	0.02[f]	0.44	8	110
ENDOSULFAN I	0/12	[0.6833]	[1.35]	0/17	[0.5]	[3.15]	0/21	[0.015]	[0.02]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	0/12	[0.6833]	[1.35]	0/17	[1]	[6]	1/21	[0.055]	0.43	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/12	[0.6833]	[1.35]	0/17	[1]	[6]	0/21	[0.125]	[0.205]	NA	NA	NA	3700000

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside (continued)

	1993/4			1996			2005			Threshold Values			
Analyte	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
ENDRIN	0/12	[0.7375]	[11.92]	0/17	[1]	[6]	0/21	[0.015]	[0.025]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/12	[1.35]	[63.35]	0/17	[1]	[6]	1/21	[0.025]	1.49	NA	NA	NA	180000
GAMMA-BHC	0/12	[0.375]	[43.02]	0/17	[0.5]	[3.15]	1/21	[0.015]	0.49	0.32[i]	NA	NA	1700
GAMMA-CHLORDANE	0/12	[0.3333]	[0.7]	0/17	[0.5]	[3.15]	5/21	[0.015]	1.66	0.5	NA	6	6500
HEPTACHLOR	0/12	[0.4725]	[6.75]	0/17	[0.5]	[3.15]	1/21	[0.01]	0.22	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/12	[0.3333]	[0.7]	0/17	[0.5]	[3.15]	1/21	[0.015]	0.3	NA	NA	NA	190
PAHs (ug/kg)													
2-METHYLNAPHTHALENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.14	7.8	70	19.4	670	NA
ACENAPHTHENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.06]	37	16	26.6	500	29000000
ACENAPHTHYLENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.12	17	44	31.7	640	NA
ANTHRACENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.19]	240	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	2/12	[56.67]	89.25	0/6	[100]	[125]	22/22	0.78	310	261	244	1600	2100
BENZO(A)PYRENE	10/12	[58.33]	240	2/6	[100]	140	22/22	1.4	530	430	412	1600	210
BENZO(B)FLUORANTHENE	12/12	81.67	287.5	1/6	[100]	240	22/22	1.1	430	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	11/12	[58.33]	225	0/6	[100]	[125]	22/22	1.5	400	290[m]	310	NA	NA
BENZO(K)FLUORANTHENE	2/12	[56.67]	86.75	0/6	[100]	[125]	22/22	0.87	340	24[j]	258	NA	1300
CHRYSENE	6/12	[56.67]	152.5	2/6	100	110	22/22	1	600	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	0/12	[50]	[80]	0/6	[100]	[125]	21/22	[0.06]	78	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	20/22	[0.075]	9.8	2290[n]	NA	NA	1600000
FLUORANTHENE	11/12	[63.33]	412.5	3/6	[100]	120	22/22	1.9	610	600	514	5100	22000000
FLUORENE	0/12	[26.25]	[42]	0/6	[100]	[125]	21/22	[0.055]	32	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	7/12	[58.33]	205	0/6	[100]	[125]	22/22	1.3	460	78[n]	382	NA	2100
NAPHTHALENE	0/12	[50]	[80]	0/6	[100]	[125]	22/22	0.37	22	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	5/12	[50]	205	0/6	[100]	[125]	22/22	0.73	120	240	237	1500	NA
PYRENE	12/12	101.7	430	4/6	[100]	150	22/22	2.5	470	665	665	2600	29000000
Total LPAH (6)[o]	5/12	[276.3]	567	0/6	[600]	[750]	22/22	1.585	432	NA	NA	3160	NA
Total HPAH (6)[p]	12/12	445	1263	4/6	[600]	760	22/22	7.64	2525	1700	3060	9600	NA

Table 4-1. Summary of Chemical Concentrations in Surface Sediments at Western Bayside (continued)

Analyte	1993/4 D/N[a]	1993/4 Min	1993/4 Max[r]	1996 D/N	1996 Min	1996 Max[r]	2005 D/N	2005 Min	2005 Max[r]	Threshold Values: Eco Screen[b]	Threshold Values: Ambient[c]	Threshold Values: ER-M[d]	Threshold Values: PRG Industrial[e]
Organotins (ug/kg)													
TRIBUTYL TIN	9/12	[2.5]	17	0/6	[1]	[1.2]	17/22	[0.035]	3	25.1[q]	NA	NA	180000
RADIUM-226	0/0	NA	NA	0/0	NA	NA	1/8	[0.025]	0.2	NA	NA	NA	NA
RADIUM-228	0/0	NA	NA	0/0	NA	NA	2/8	[0.13]	1.34	NA	NA	NA	NA

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data)

Analyte	0-5 cm D/N[a]	0-5 cm Min	0-5 cm Max[r]	5-25 cm D/N	5-25 cm Min	5-25 cm Max[r]	25-50 cm D/N	25-50 cm Min	25-50 cm Max[r]	Threshold Values: Eco Screen[b]	Threshold Values: Ambient[c]	Threshold Values: ER-M[d]	Threshold Values: PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	4/22	[0.015]	0.31	4/22	[0.015]	0.29	6/22	[0.02]	0.28	2[f]	NA	25	410
ARSENIC	22/22	2.39	5.85	22/22	1.9	6.62	22/22	1.49	8.71	8.2	15.3	70	0.25
CADMIUM	21/22	[0.0245]	0.306	21/22	[0.015]	0.952	21/22	[0.023]	0.597	1.2	0.33	9.6	450
CHROMIUM	22/22	27.2	89.8	22/22	28.9	88.8	22/22	29.9	100	81	112	370	450
COPPER	22/22	4.48	32.3	22/22	4.96	36.1	22/22	6.3	136	34	68.1	270	41000
LEAD	22/22	3.4	30.8	22/22	3.68	32.2	22/22	2.72	91.1	46.7	43.2	218	800
MERCURY	21/21	0.0075	0.366	22/22	0.0184	0.499	21/21	0.0118	0.533	0.15	0.43	0.71	310
NICKEL	22/22	18.4	55.8	22/22	19.8	65.6	22/22	23.8	63.1	20.9	112	51.6	20000
SELENIUM	0/22	[0.06]	[0.185]	0/22	[0.06]	[0.21]	0/22	[0.065]	[0.195]	0.7[f]	0.64	1.4	5100
SILVER	22/22	0.021	1.17	22/22	0.023	0.441	21/22	[0.0075]	0.803	1	0.58	3.7	5100
ZINC	22/22	16.3	80.4	22/22	15.9	85.5	22/22	17.2	76.9	150	158	410	100000
Pesticides and PCBs (ug/kg)													
Total PCB[g]	21/21	2.14	45.26	22/22	0.56	71.18	19/22	4.06	96.54	22.7	200[h]	180	NA
Total 4,4-DDx[i]	21/21	0.435	12.79	21/22	[0.045]	5.6	20/22	[0.045]	18.14	1.58	7	46.1	NA
Total DDx	21/21	0.51	15.96	21/22	[0.1]	6.57	20/22	[0.105]	19.58	NA	NA	NA	NA
2,4'-DDD	4/21	[0.02]	2.58	5/22	[0.015]	1.99	7/22	[0.02]	1.72	NA	NA	NA	10000
2,4'-DDE	2/21	[0.015]	0.57	1/22	[0.01]	0.56	4/22	[0.015]	0.45	NA	NA	NA	7000
2,4'-DDT	2/21	[0.02]	1.03	5/22	[0.02]	0.74	2/22	[0.02]	0.36	NA	NA	NA	7000
4,4'-DDD	21/21	0.33	6.36	21/22	[0.02]	3.02	19/22	[0.02]	4.63	2[f]	NA	20	10000
4,4'-DDE	20/21	[0.015]	2.61	21/22	[0.01]	1.89	19/22	[0.01]	1.96	2.2	NA	27	7000
4,4'-DDT	18/21	[0.015]	3.82	16/22	[0.015]	0.97	10/22	[0.015]	13.33	1	NA	7	7000
ALDRIN	1/21	[0.01]	0.31	0/22	[0.01]	[0.02]	0/22	[0.01]	[0.02]	0.2[j]	NA	NA	100
ALPHA-BHC	1/21	[0.02]	0.4	0/22	[0.015]	[0.035]	0/22	[0.02]	[0.03]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	4/21	[0.015]	1.42	6/22	[0.015]	0.48	2/22	[0.015]	0.19	0.5[f]	NA	6	6500
DIELDRIN	3/21	[0.015]	1.13	7/22	[0.01]	0.72	4/22	[0.015]	0.77	0.02[f]	0.44	8	110
ENDOSULFAN I	0/21	[0.015]	[0.02]	0/22	[0.01]	[0.025]	1/22	[0.015]	0.45	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/21	[0.055]	0.43	3/22	[0.05]	0.4	2/22	[0.055]	0.42	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/21	[0.125]	[0.205]	0/22	[0.115]	[0.22]	0/22	[0.125]	[0.21]	NA	NA	NA	3700000

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data) (continued)

Analyte	0-5 cm			5-25 cm			25-50 cm			Threshold Values			
	D/N[(a)]	Min	Max[(r)]	D/N	Min	Max[(r)]	D/N	Min	Max[(r)]	Eco Screen[(b)]	Ambient[(c)]	ER-M[(d)]	PRG Industrial[(e)]
ENDRIN	0/21	[0.015]	[0.025]	0/22	[0.015]	[0.025]	0/22	[0.015]	[0.025]	0.02[(f)]	NA	45	180000
ENDRIN ALDEHYDE	1/21	[0.025]	1.49	2/22	[0.02]	0.82	1/22	[0.025]	0.88	NA	NA	NA	180000
GAMMA-BHC	1/21	[0.015]	0.49	0/22	[0.01]	[0.025]	0/22	[0.015]	[0.02]	0.32[(l)]	NA	NA	1700
GAMMA-CHLORDANE	5/21	[0.015]	1.66	7/22	[0.01]	0.63	3/22	[0.015]	0.24	0.5	NA	6	6500
HEPTACHLOR	1/21	[0.01]	0.22	0/22	[0.01]	[0.02]	0/22	[0.01]	[0.02]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	1/21	[0.015]	0.3	0/22	[0.01]	[0.025]	0/22	[0.015]	[0.02]	NA	NA	NA	190
PAHs (ug/kg)													
2-METHYLNAPHTHALENE	22/22	0.14	7.8	21/22	[0.07]	320	21/22	[0.07]	46	70	19.4	670	NA
ACENAPHTHENE	21/22	[0.06]	37	21/22	[0.06]	8000	20/22	[0.06]	45	16	26.6	500	29000000
ACENAPHTHYLENE	22/22	0.12	17	21/22	[0.046]	40	20/22	[0.0455]	71	44	31.7	640	NA
ANTHRACENE	21/22	[0.19]	240	22/22	0.13	5400	20/22	[0.06]	200	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	22/22	0.78	310	22/22	0.38	31000	21/22	[0.13]	1100	261	244	1600	2100
BENZO(A)PYRENE	22/22	1.4	530	22/22	0.82	51000	21/22	[0.055]	1400	430	412	1600	210
BENZO(B)FLUORANTHENE	22/22	1.1	430	22/22	0.64	32000	21/22	[0.07]	1100	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	22/22	1.5	400	22/22	0.91	27000	22/22	0.14	770	290[(m)]	310	NA	NA
BENZO(K)FLUORANTHENE	22/22	0.87	340	22/22	0.49	40000	21/22	[0.06]	1200	24[(j)]	258	NA	1300
CHRYSENE	22/22	1	600	22/22	0.5	39000	22/22	0.08	1600	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	21/22	[0.06]	78	20/22	[0.06]	5000	20/22	[0.06]	300	63.4	32.7	260	210
DIBENZOFURAN	20/22	[0.075]	9.8	21/22	[0.075]	420	19/22	[0.075]	53	2290[(n)]	NA	NA	1600000
FLUORANTHENE	22/22	1.9	610	22/22	1.1	46000	21/22	[0.095]	2400	600	514	5100	22000000
FLUORENE	21/22	[0.055]	32	21/22	[0.055]	1400	21/22	[0.055]	54	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	22/22	1.3	460	22/22	0.77	35000	21/22	[0.055]	960	78[(n)]	382	NA	2100
NAPHTHALENE	22/22	0.37	22	22/22	0.3	230	22/22	0.21	170	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	22/22	0.73	120	22/22	0.46	20000	22/22	0.18	600	240	237	1500	NA
PYRENE	22/22	2.5	470	22/22	1.4	50000	21/22	[0.11]	2300	665	665	2600	29000000
Total LPAH (6)[(o)]	22/22	1.585	432	22/22	1.051	35070	22/22	0.6105	996	NA	NA	3160	NA
Total HPAH (6)[(p)]	22/22	7.64	2525	22/22	4.26	222000	22/22	0.53	9100	1700	3060	9600	NA

Table 4-2. Summary of Chemical Concentrations in Subsurface Sediments at Western Bayside (2005 Data) (continued)

Analyte	0-5 cm			5-25 cm			25-50 cm			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Organotins (ug/kg)													
TRIBUTYL TIN	17/22	[0.035]	3	19/22	[0.0345]	4	10/22	[0.0345]	1.6	25.1[q]	NA	NA	180000
Radionuclides (pCi/g)													
RADIUM-226	1/8	[0.025]	0.2	1/8	[0.019]	0.24	3/8	[0.05]	0.45	NA	NA	NA	NA
RADIUM-228	2/8	[0.13]	1.34	2/8	[0.08]	0.74	3/8	[0.13]	1.36	NA	NA	NA	NA

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 6 isomers (2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). Total 4,4'-DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year

Analyte	1996			1998			2002			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)													
ANTIMONY	11/21	[0.39]	1.8	5/5	0.15	0.26	5/5	0.56	0.822	2[f]	NA	25	410
ARSENIC	19/21	[1.1]	11.9	5/5	5.3	7.9	5/5	6.61	10.2	8.2	15.3	70	0.25
CADMIUM	2/21	[0.025]	0.13	5/5	0.15	0.41	5/5	0.341	0.456	1.2	0.33	9.6	450
CHROMIUM	21/21	22.7	111	5/5	84	98	5/5	134	153	81	112	370	450
COPPER	21/21	5.5	77.2	5/5	56	66	5/5	37.1	58.1	34	68.1	270	41000
LEAD	21/21	7.5	48.9	5/5	31.9	36.7	5/5	21.1	32.5	46.7	43.2	218	800
MERCURY	21/21	0.04	0.66	4/4	0.4	0.5	5/5	0.232	0.39	0.15	0.43	0.71	310
NICKEL	21/21	15.5	99	5/5	60.3	67.9	5/5	65.7	89.9	20.9	112	51.6	20000
SELENIUM	0/21	[0.375]	[0.95]	5/5	0.5	0.7	5/5	0.645	1.15	0.7[f]	0.64	1.4	5100
SILVER	4/21	[0.075]	2.5	5/5	0.32	0.48	5/5	0.555	0.769	1	0.58	3.7	5100
ZINC	21/21	28.4	210	5/5	135	145	5/5	95.9	141	150	158	410	100000
Pesticides and PCBs (ug/kg)													
Total PCB[g]	4/21	14	119	5/5	10	30.82	5/5	25.11	55.94	22.7	200[h]	180	NA
Total 4,4-DDx[i]	1/21	[3.6]	6.2	5/5	1.54	2.97	5/5	2.357	4.565	1.58	7	46.1	NA
Total DDx	0/0	NA	NA	5/5	2.14	4.04	5/5	3.277	6.269	NA	NA	NA	NA
2,4'-DDD	0/0	NA	NA	1/5	[0.14]	0.54	5/5	0.6839	1.769	NA	NA	NA	10000
2,4'-DDE	0/0	NA	NA	0/5	[0.23]	[0.28]	4/5	[0.072]	0.1365	NA	NA	NA	7000
2,4'-DDT	0/0	NA	NA	0/5	[0.23]	[0.28]	5/5	0.1324	0.2265	NA	NA	NA	7000
4,4'-DDD	0/21	[1.2]	[13]	2/5	[0.36]	1.1	5/5	1.116	1.857	2[f]	NA	20	10000
4,4'-DDE	0/21	[1.2]	[13]	5/5	0.6	1.5	5/5	0.9387	1.561	2.2	NA	27	7000
4,4'-DDT	1/21	[1.2]	2.1	0/5	[0.36]	[0.47]	5/5	0.3018	1.61	1	NA	7	7000
ALDRIN	0/21	[0.6]	[6.5]	1/5	[0.165]	0.33	0/5	[0.03074]	[0.04409]	0.2[j]	NA	NA	100
ALPHA-BHC	0/21	[0.6]	[6.5]	0/0	NA	NA	0/5	[0.02615]	[0.0375]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	5/5	0.08131	0.1913	0.5[f]	NA	6	6500
DIELDRIN	0/21	[1.2]	[13]	0/5	[0.14]	[0.17]	5/5	0.4129	0.6221	0.02[f]	0.44	8	110
ENDOSULFAN I	0/21	[0.6]	[6.5]	0/0	NA	NA	0/5	[0.04962]	[0.07117]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/21	[1.2]	6.9	0/0	NA	NA	0/5	[0.04845]	[0.06948]	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/21	[1.2]	[13]	0/0	NA	NA	0/5	[0.05067]	[0.07267]	NA	NA	NA	3700000

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year (continued)

Analyte	1996			1998			2002			Threshold Values			
	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
ENDRIN	0/21	[1.2]	[13]	0/5	[0.14]	[0.17]	0/5	[0.04289]	[0.0615]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/21	[1.2]	[13]	0/0	NA	NA	0/5	[0.07016]	[0.1006]	NA	NA	NA	180000
GAMMA-BHC	0/21	[0.6]	[6.5]	0/2	[0.1]	[0.11]	0/5	[0.03174]	[0.04553]	0.32[l]	NA	NA	1700
GAMMA-CHLORDANE	0/21	[0.6]	[6.5]	0/0	NA	NA	5/5	0.2849	1.109	0.5	NA	6	6500
HEPTACHLOR	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	0/5	[0.04016]	[0.05759]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/21	[0.6]	[6.5]	0/5	[0.14]	[0.17]	0/5	[0.03708]	[0.05318]	NA	NA	NA	190
PAHs (ug/kg)													
2-METHYLNAPHTHALENE	0/21	[100]	[260]	0/0	NA	NA	5/5	7.01	21	70	19.4	670	NA
ACENAPHTHENE	0/21	[100]	[260]	5/5	2.5	19	5/5	3.88	87.4	16	26.6	500	29000000
ACENAPHTHYLENE	0/21	[100]	[260]	5/5	7	37	5/5	6.32	11.9	44	31.7	640	NA
ANTHRACENE	1/21	[100]	260	5/5	16	170	5/5	21.2	126	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	3/21	[100]	580	5/5	57	380	5/5	80.6	307	261	244	1600	2100
BENZO(A)PYRENE	9/21	[100]	660	5/5	97	260	5/5	118	289	430	412	1600	210
BENZO(B)FLUORANTHENE	9/21	[100]	820	5/5	110	430	5/5	139	284	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	5/21	[100]	220	5/5	72	120	5/5	126	192	290[m]	310	NA	NA
BENZO(K)FLUORANTHENE	3/21	[100]	330	5/5	33	140	5/5	117	248	24[j]	258	NA	1300
CHRYSENE	3/21	[100]	670	5/5	61	390	5/5	110	486	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	0/21	[100]	[260]	5/5	6	22	5/5	17.2	30.5	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	0/0	NA	NA	2290[n]	NA	NA	1600000
FLUORANTHENE	6/21	[100]	1600	5/5	120	1400	5/5	170	666	600	514	5100	22000000
FLUORENE	0/21	[100]	[260]	5/5	3.5	33	5/5	7.86	108	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	4/21	[100]	190	5/5	71	140	5/5	134	207	78[n]	382	NA	2100
NAPHTHALENE	0/21	[100]	[260]	5/5	4.3	8.6	5/5	14.6	29.8	160	55.8	2100	4200
PERYLENE	0/0	NA	NA	5/5	30	75	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	3/21	[100]	590	5/5	37	170	5/5	56.9	467	240	237	1500	NA
PYRENE	11/21	[100]	1900	5/5	150	820	5/5	193	599	665	665	2600	29000000
Total LPAH (6)[o]	3/21	[600]	1520	5/5	70.3	438	5/5	112.8	830.1	NA	NA	3160	NA
Total HPAH (6)[p]	11/21	[600]	5545	5/5	492.9	3272	5/5	733.6	2378	1700	3060	9600	NA

Table 4-5. Summary of Chemical Concentrations in Breakwater Beach Surface Sediment by Year (continued)

Analyte	1996			1998			2002			Threshold Values			
	D/N[(a)]	Min	Max[(r)]	D/N	Min	Max[(r)]	D/N	Min	Max[(r)]	Eco Screen[(b)]	Ambient[(c)]	ER-M[(d)]	PRG Industrial[(e)]
Organotins (ug/kg)													
TRIBUTYL TIN	0/21	[1]	[2.5]	5/5	6	9	0/5	[1.887]	[3.048]	25.1[(q)]	NA	NA	180000

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

Table 4-6. Summary of Chemical Concentrations in Breakwater Beach Sediment by Depth

	Surface (All Years)			75-180 cm (1996 Data)			Threshold Values			
Analyte	D/N[a]	Min	Max[r]	D/N	Min	Max[r]	Eco Screen[b]	Ambient[c]	ER-M[d]	PRG Industrial[e]
Inorganics (mg/kg)										
ANTIMONY	21/31	0.15	1.8	4/21	[0.38]	1.9	2[f]	NA	25	410
ARSENIC	29/31	[1.1]	11.9	17/21	[1]	10.7	8.2	15.3	70	0.25
CADMIUM	12/31	[0.025]	0.46	0/21	[0.025]	[0.05]	1.2	0.33	9.6	450
CHROMIUM	31/31	22.7	153	21/21	17.2	120	81	112	370	450
COPPER	31/31	5.5	77.2	21/21	4.7	77.6	34	68.1	270	41000
LEAD	31/31	7.5	48.9	21/21	3.1	65	46.7	43.2	218	800
MERCURY	30/30	0.04	0.66	14/21	[0.01]	0.71	0.15	0.43	0.71	310
NICKEL	31/31	15.5	99	21/21	13.8	93.8	20.9	112	51.6	20000
SELENIUM	10/31	[0.375]	1.15	0/21	[0.37]	[0.75]	0.7[f]	0.64	1.4	5100
SILVER	14/31	[0.075]	2.5	1/21	[0.07]	0.92	1	0.58	3.7	5100
ZINC	31/31	28.4	210	19/21	[20.4]	198	150	158	410	100000
Pesticides and PCBs (ug/kg)										
Total PCB[g]	14/31	10	119	3/21	11	210	22.7	200[h]	180	NA
Total 4,4-DDx[i]	11/31	1.54	6.2	1/21	[3]	16.1	1.58	7	46.1	NA
Total DDx	10/10	2.14	6.27	0/0	NA	NA	NA	NA	NA	NA
2,4'-DDD	6/10	[0.14]	1.77	0/0	NA	NA	NA	NA	NA	10000
2,4'-DDE	4/10	[0.072]	0.137	0/0	NA	NA	NA	NA	NA	7000
2,4'-DDT	5/10	0.132	0.227	0/0	NA	NA	NA	NA	NA	7000
4,4'-DDD	7/31	[0.36]	1.86	0/21	[1]	[2]	2[f]	NA	20	10000
4,4'-DDE	10/31	0.6	1.56	1/21	[1]	8.4	2.2	NA	27	7000
4,4'-DDT	6/31	0.302	2.1	1/21	[1]	5.7	1	NA	7	7000
ALDRIN	1/31	[0.03074]	0.33	0/21	[0.5]	[1.05]	0.2[j]	NA	NA	100
ALPHA-BHC	0/26	[0.02615]	[6.5]	0/21	[0.5]	[1.05]	0.6[j]	NA	NA	360
ALPHA-CHLORDANE	5/31	0.081	0.191	0/21	[0.5]	[1.05]	0.5[f]	NA	6	6500
DIELDRIN	5/31	[0.14]	0.622	0/21	[1]	[2]	0.02[f]	0.44	8	110
ENDOSULFAN I	0/26	[0.04962]	[6.5]	0/21	[0.5]	[1.05]	0.93[k]	NA	NA	3700000
ENDOSULFAN II	1/26	[0.04845]	6.9	0/21	[1]	[2]	0.93[k]	NA	NA	3700000
ENDOSULFAN SULFATE	0/26	[0.05067]	[13]	0/21	[1]	[2]	NA	NA	NA	3700000
ENDRIN	0/31	[0.04289]	[13]	0/21	[1]	[2]	0.02[f]	NA	45	180000
ENDRIN ALDEHYDE	0/26	[0.07016]	[13]	1/21	[1]	3.7	NA	NA	NA	180000
GAMMA-BHC	0/28	[0.03174]	[6.5]	0/21	[0.5]	[1.05]	0.32[l]	NA	NA	1700
GAMMA-CHLORDANE	5/26	0.285	1.11	0/21	[0.5]	[1.05]	0.5	NA	6	6500
HEPTACHLOR	0/31	[0.04016]	[6.5]	0/21	[0.5]	[1.05]	NA	NA	NA	380
HEPTACHLOR EPOXIDE	0/31	[0.03708]	[6.5]	0/21	[0.5]	[1.05]	NA	NA	NA	190
PAHs (ug/kg)										
2-METHYLNAPHTHALENE	5/26	7.01	21	0/21	[100]	[200]	70	19.4	670	NA
ACENAPHTHENE	10/31	2.5	87.4	0/21	[100]	[200]	16	26.6	500	29000000
ACENAPHTHYLENE	10/31	6.32	37	0/21	[100]	[200]	44	31.7	640	NA
ANTHRACENE	11/31	16	260	1/21	[100]	110	85.3	88	1100	100000000
BENZO(A)ANTHRACENE	13/31	57	580	1/21	[100]	270	261	244	1600	2100
BENZO(A)PYRENE	19/31	97	660	5/21	[100]	640	430	412	1600	210
BENZO(B)FLUORANTHENE	19/31	[100]	820	5/21	[100]	650	NA	371	NA	2100
BENZO(G,H,I)PERYLENE	15/31	72	220	3/21	[100]	430	290[m]	310	NA	NA

Table 4-6. Summary of Chemical Concentrations in Breakwater Beach Sediment by Depth (continued)

Analyte	Surface (All Years) D/N[a]	Surface (All Years) Min	Surface (All Years) Max[r]	75-180 cm (1996 Data) D/N	75-180 cm (1996 Data) Min	75-180 cm (1996 Data) Max[r]	Threshold Values Eco Screen[b]	Threshold Values Ambient[c]	Threshold Values ER-M[d]	Threshold Values PRG Industrial[e]
BENZO(K)FLUORANTHENE	13/31	33	330	1/21	[100]	160	24[j]	258	NA	1300
CHRYSENE	13/31	61	670	3/21	[100]	300	384	289	2800	13000
DIBENZO(A,H)ANTHRACENE	10/31	6	30.5	0/21	[100]	[200]	63.4	32.7	260	210
DIBENZOFURAN	0/0	NA	NA	0/0	NA	NA	2290[n]	NA	NA	1600000
FLUORANTHENE	16/31	[100]	1600	4/21	[100]	770	600	514	5100	22000000
FLUORENE	10/31	3.5	108	0/21	[100]	[200]	19	25.3	540	26000000
INDENO(1,2,3-CD)PYRENE	14/31	71	207	3/21	[100]	310	78[n]	382	NA	2100
NAPHTHALENE	10/31	4.3	29.8	0/21	[100]	[200]	160	55.8	2100	4200
PERYLENE	5/5	30	75	0/0	NA	NA	NA	145	NA	NA
PHENANTHRENE	13/31	37	590	2/21	[100]	820	240	237	1500	NA
PYRENE	21/31	[100]	1900	6/21	[100]	1100	665	665	2600	29000000
Total LPAH (6)[o]	13/31	70.3	1520	2/21	[600]	1820	NA	NA	3160	NA
Total HPAH (6)[p]	21/31	492.9	5545	6/21	[600]	2860	1700	3060	9600	NA
Organotins (ug/kg)										
TRIBUTYL TIN	5/31	[1]	9	0/21	[1.05]	[2.05]	25.1[q]	NA	NA	180000

NA = not applicable

Brackets indicate non-detected concentration at half the reported detection limit.

(a) D/N - Number of detected samples/total number of samples analyzed.
(b) Conservative ecological sediment screening benchmarks protective of benthic invertebrates and fish. Values represent the Effects Range-Low (ER-L) from Long et al. 1995, unless otherwise noted.
(c) Ambient values reflect data from the Bay Protection and Toxic Hotspot Cleanup Program (BPTCP) and the SFEI RMP, unless otherwise noted.
(d) ER-M - Effects range-median from Long et al., 1995.
(e) Preliminary remediation goals (PRG) reported by U.S. EPA (2004a), based on human health exposures to soil under an industrial exposure scenario. California-modified PRGs were listed when available.
(f) ER-L reported by Long and Morgan, 1991.
(g) Total PCB is based on the sum of detected concentrations. The sum is based on 7 Aroclors prior to 1998 when PCBs were quantified using an Aroclor method, and is based on 2 times the sum of 20 congeners beginning in 1998 when PCBs analyses were quantified using a congener method. See Section 4.1.1 for lists of analytes in the sums.
(h) Upper-bound estimate of nearshore ambient as recommended by San Francisco Bay Water Board, 2005.
(i) Total DDx is based on the sum of detected concentrations of 6 isomers (2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). Total 4,4'-DDx is based on the sum of detected concentrations of 3 isomers (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). The 2,4'-DDx isomers were not measured prior to 1998, so the sum based on 4,4-DDx isomers is used as a surrogate to measure Total DDx.
(j) Freshwater LEL (Persaud et al., 1993). One-tenth of the LEL was used as the screening value.
(k) EqP-derived TRV based on 1% OC, 4.1 Kow (U.S. EPA, 1995), and marine AWQC.
(l) TEL (MacDonald et al., 1996).
(m) Freshwater ERL based on 14-day *C. riparius* test (U.S. EPA, 1996).
(n) EqP-derived TRV based on 1% OC, 4.12 Kow (Jones et al., 1997), and freshwater toxicity data.
(o) Total LPAH (6) is based on the sum of the detected concentrations of 6 low-molecular-weight PAHs (Acenapthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene). These are 6 of the 7 constituents used by Long to calculate the LPAH ER-L and ER-M. The seventh constituent, 2-Methylnaphthalene, was not measured in IR Site 24 in 2005, so the sum based on 6 constituents was chosen to provide consistency across all sampling locations.
(p) Total HPAH (6) is based on the sum of the detected concentrations of 6 high-molecular-weight PAHs (Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Pyrene). These were the 6 constituents used by Long to calculate the HPAH ER-L and ER-M.
(q) Value reported by Weston, 1996.
(r) Max is maximum detected value.

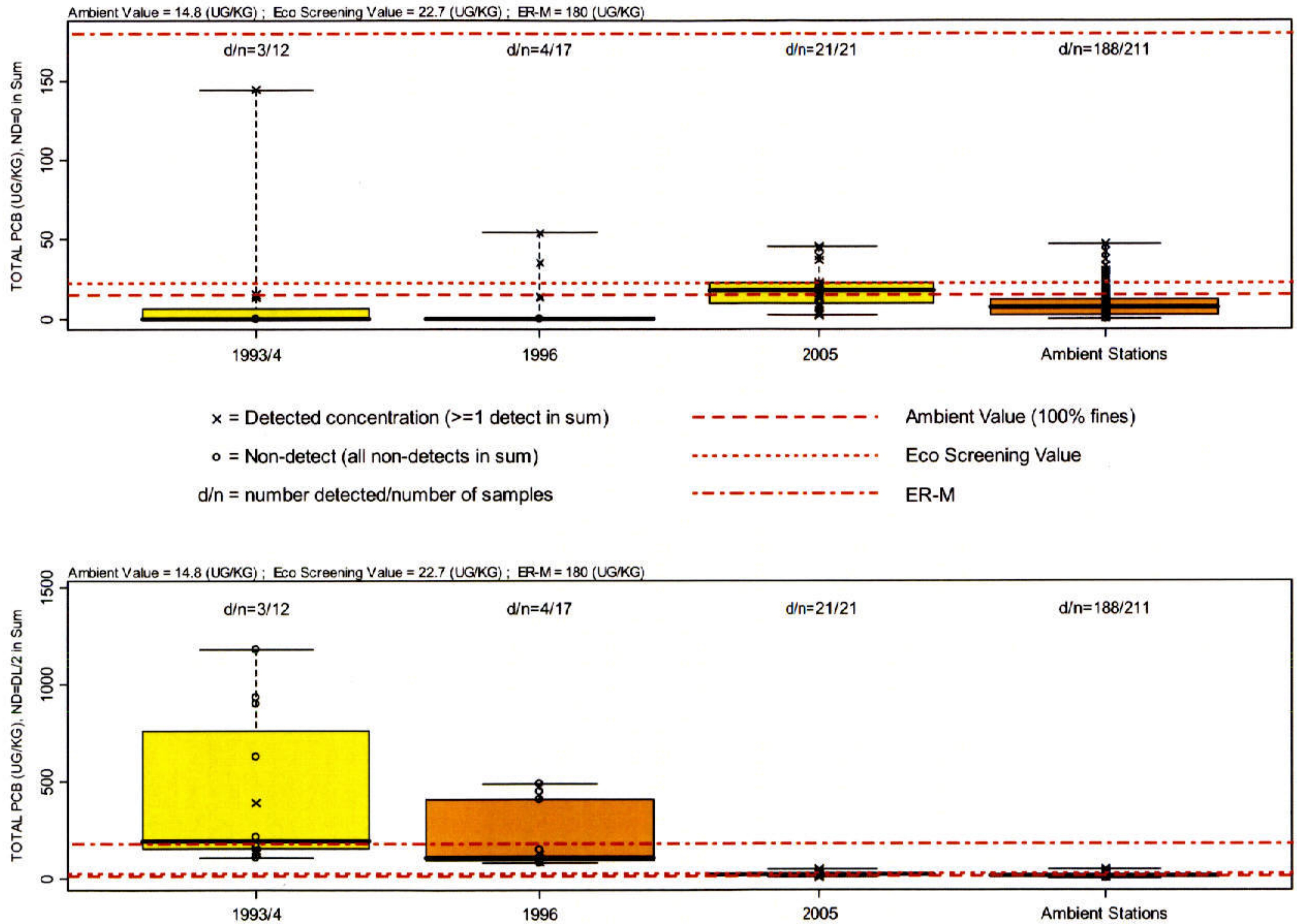

Figure 1. Box Plots of Total PCB in Western Bayside Surface Sediment by Year.

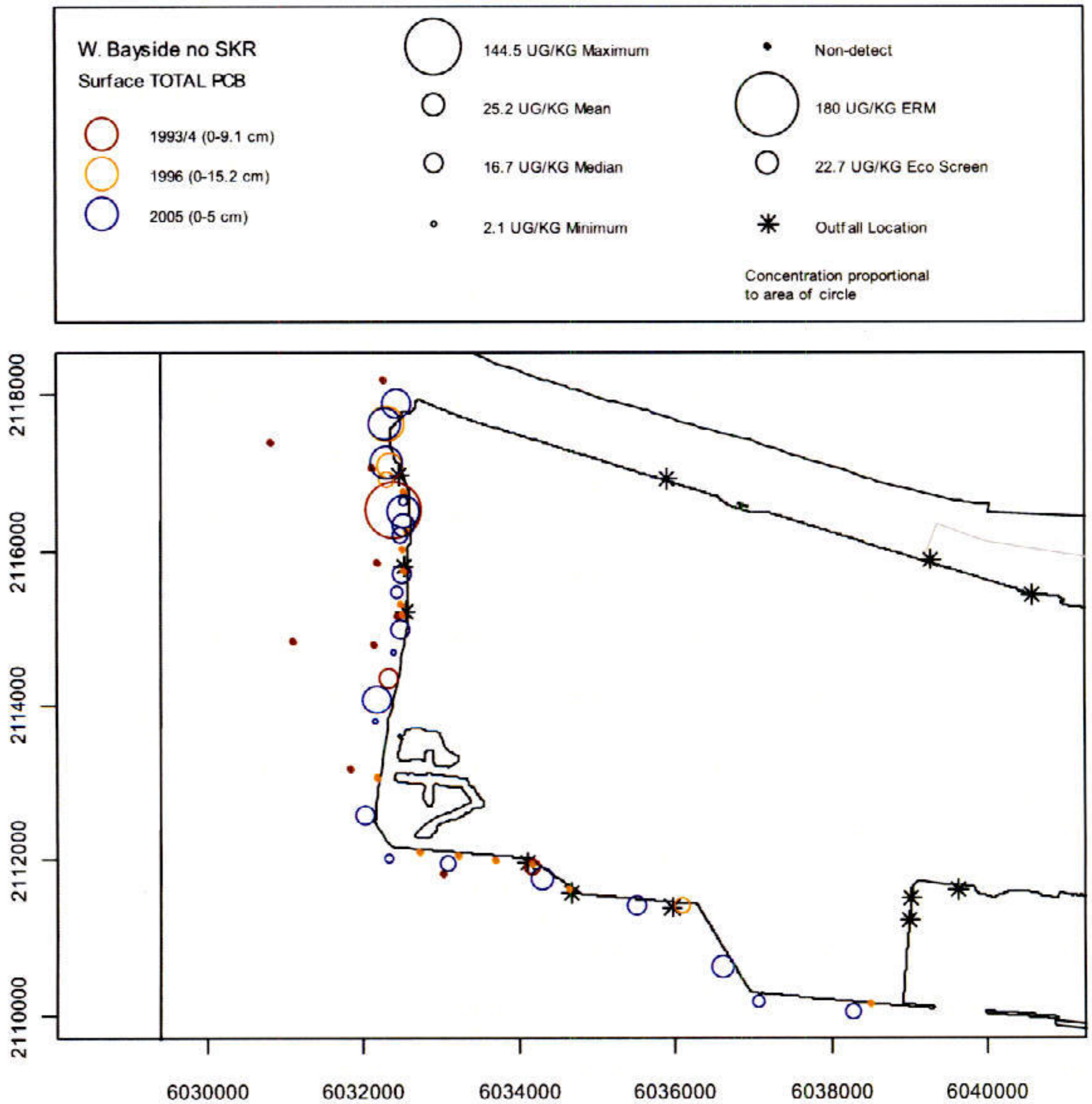

Figure 2. Bubble Plot of Total PCB in Western Bayside Surface Sediment by Year.

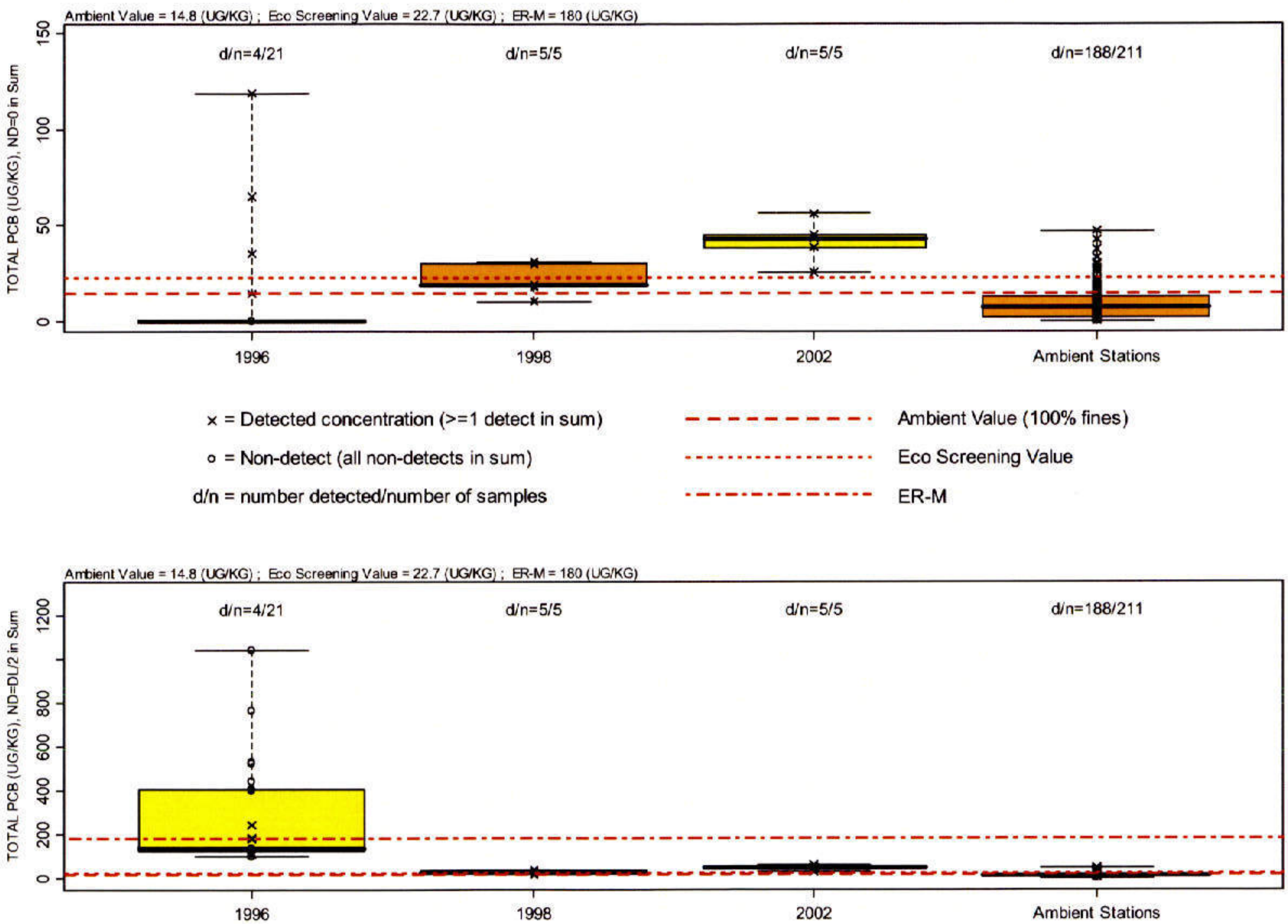

Figure 3. Box Plots of Total PCB in Breakwater Beach Surface Sediment by Year.

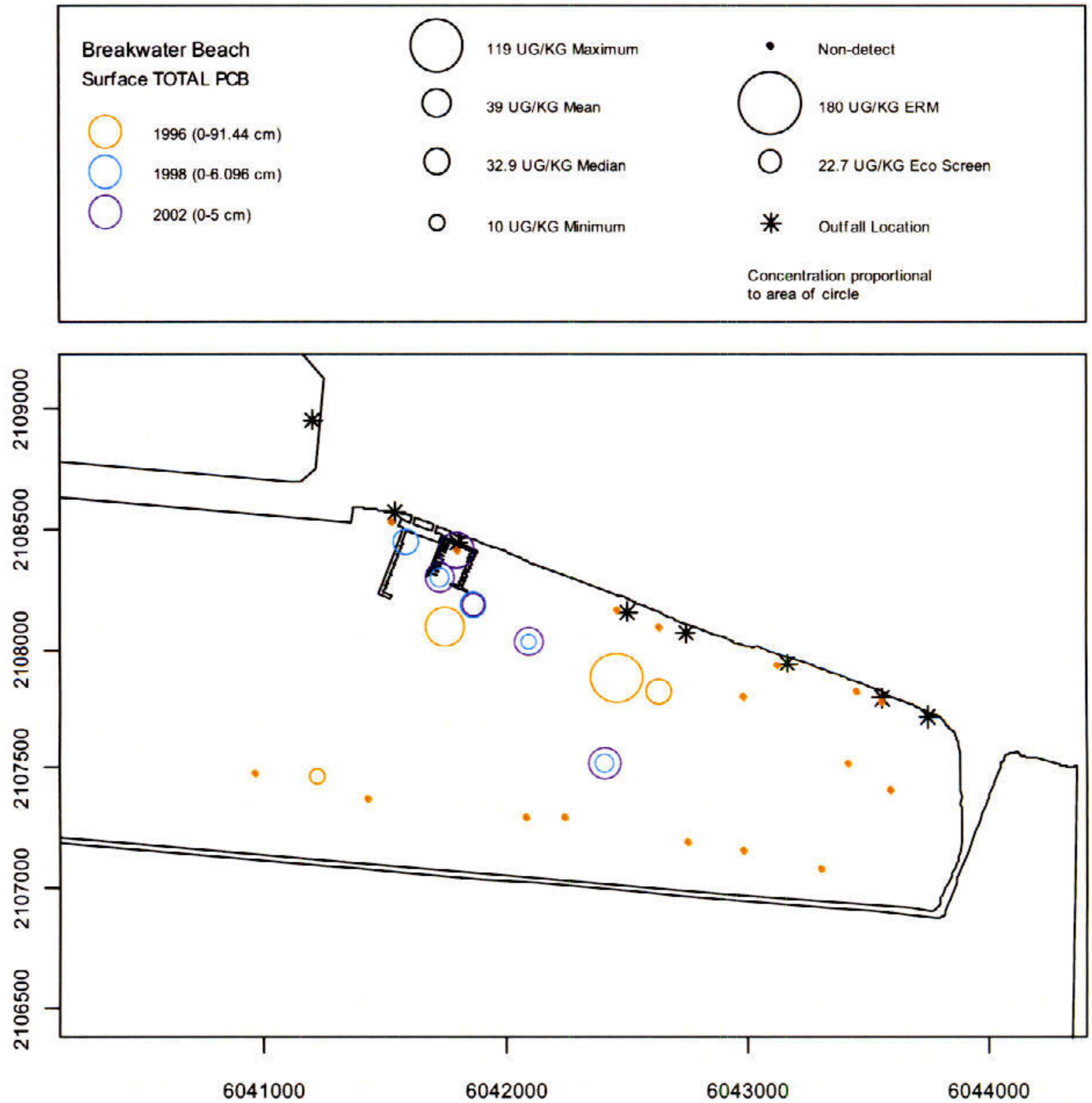

Figure 4. Bubble Plot of Total PCB in Breakwater Beach Surface Sediment by Year.

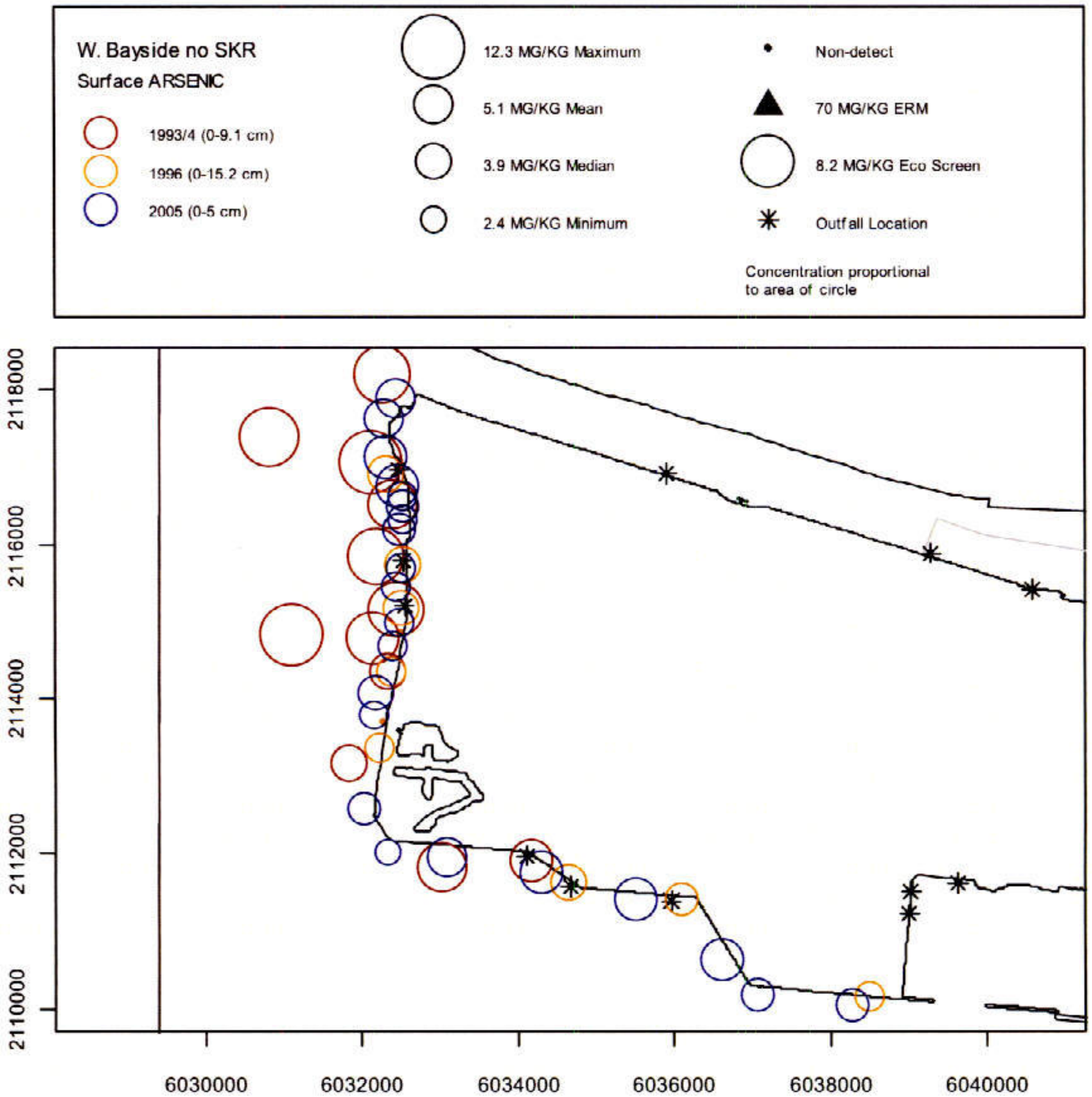

Figure 5. Bubble Plot of Arsenic in Western Bayside Surface Sediment by Year.

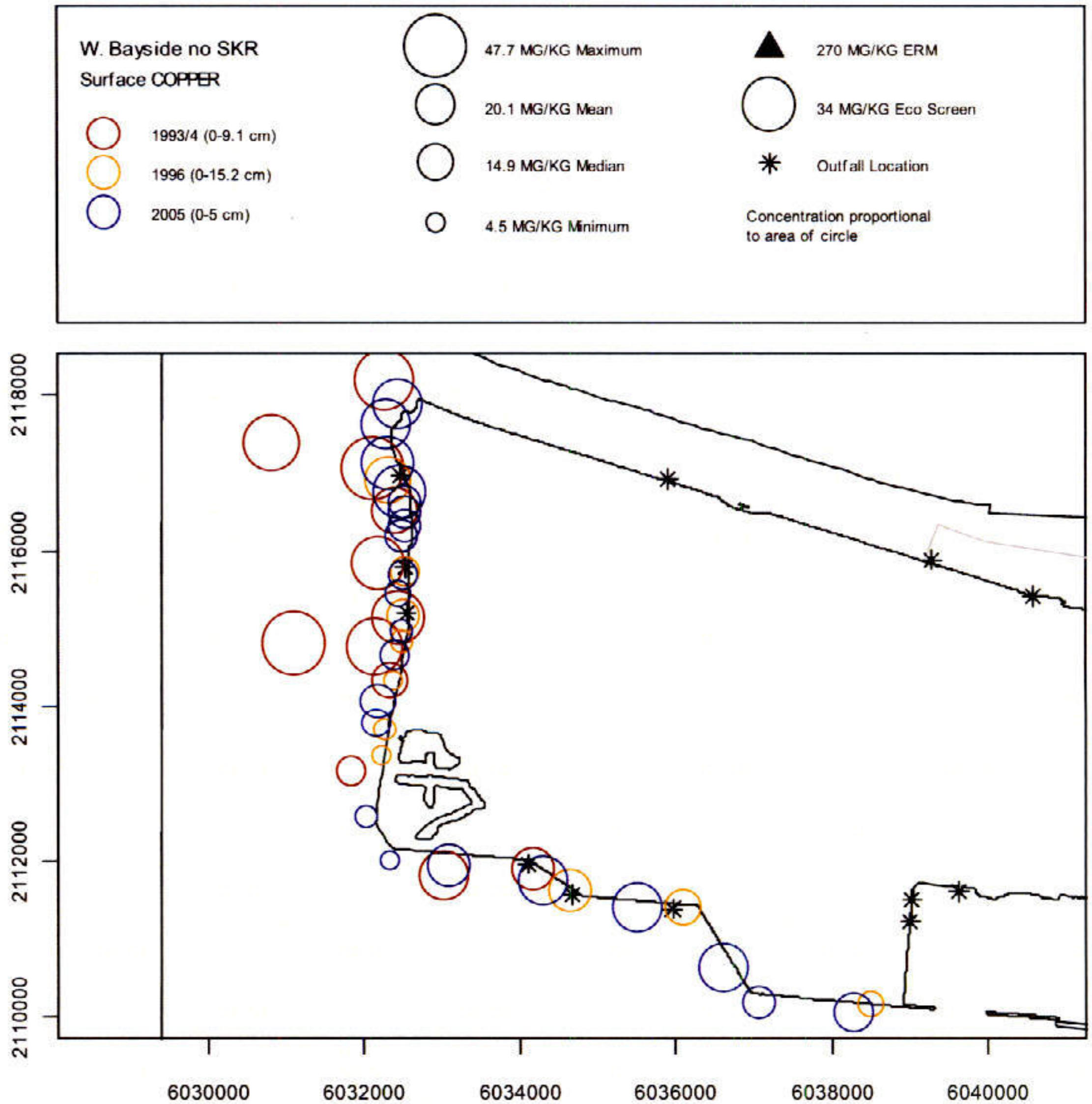

Figure 6. Bubble Plot of Copper in Western Bayside Surface Sediment by Year.

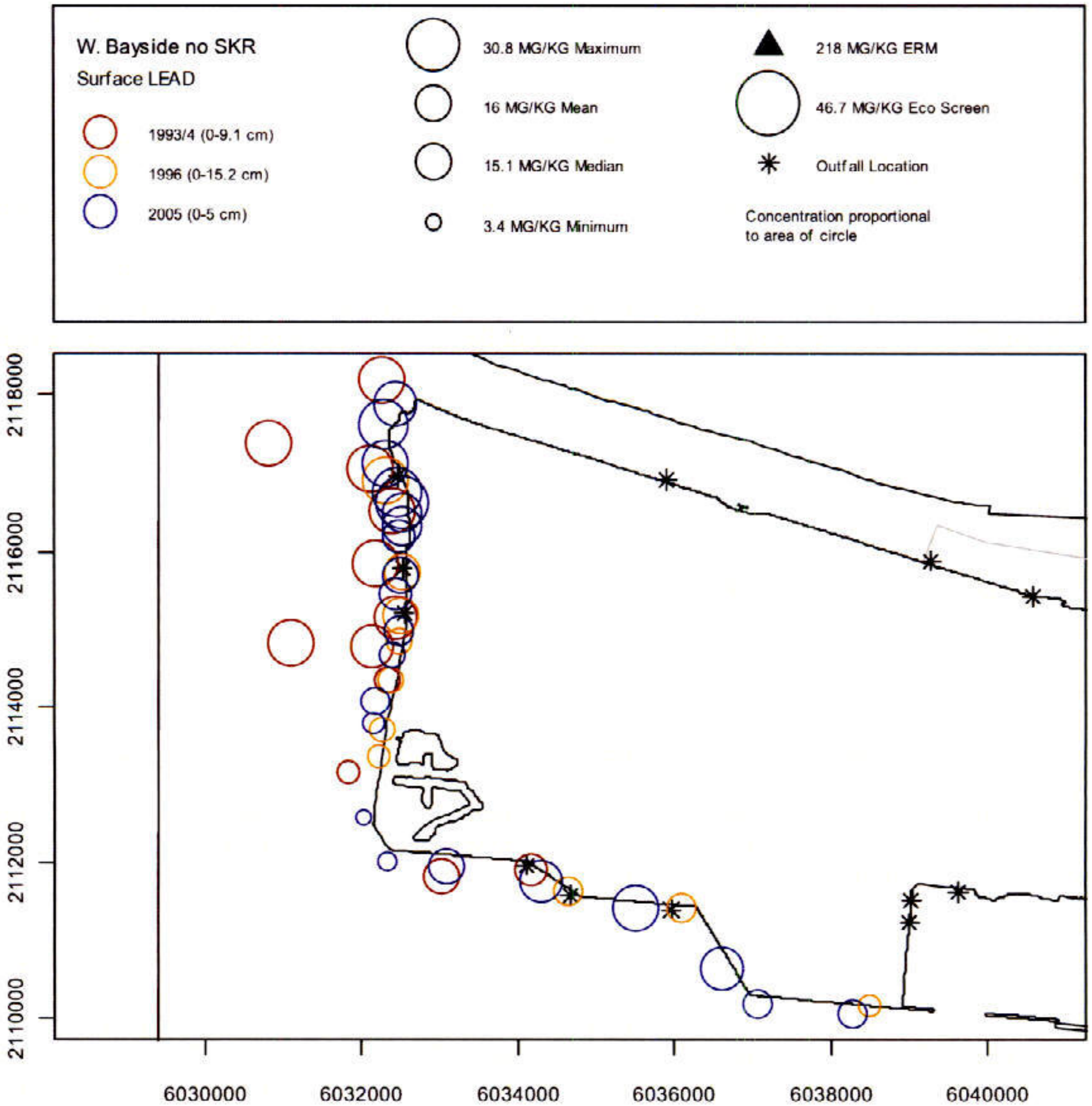

Figure 7. Bubble Plot of Lead in Western Bayside Surface Sediment by Year.

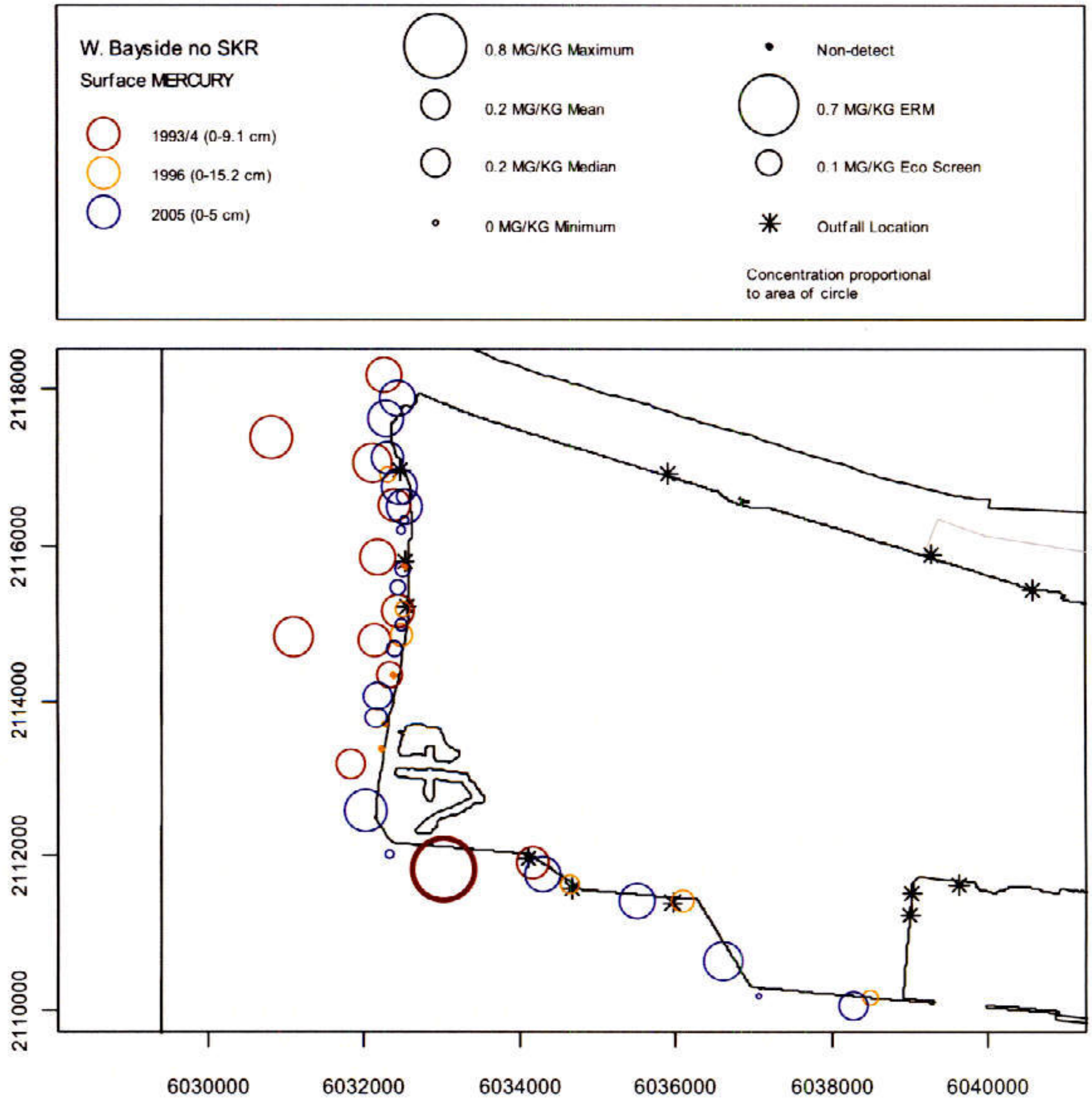

Figure 8. Bubble Plot of Mercury in Western Bayside Surface Sediment by Year.

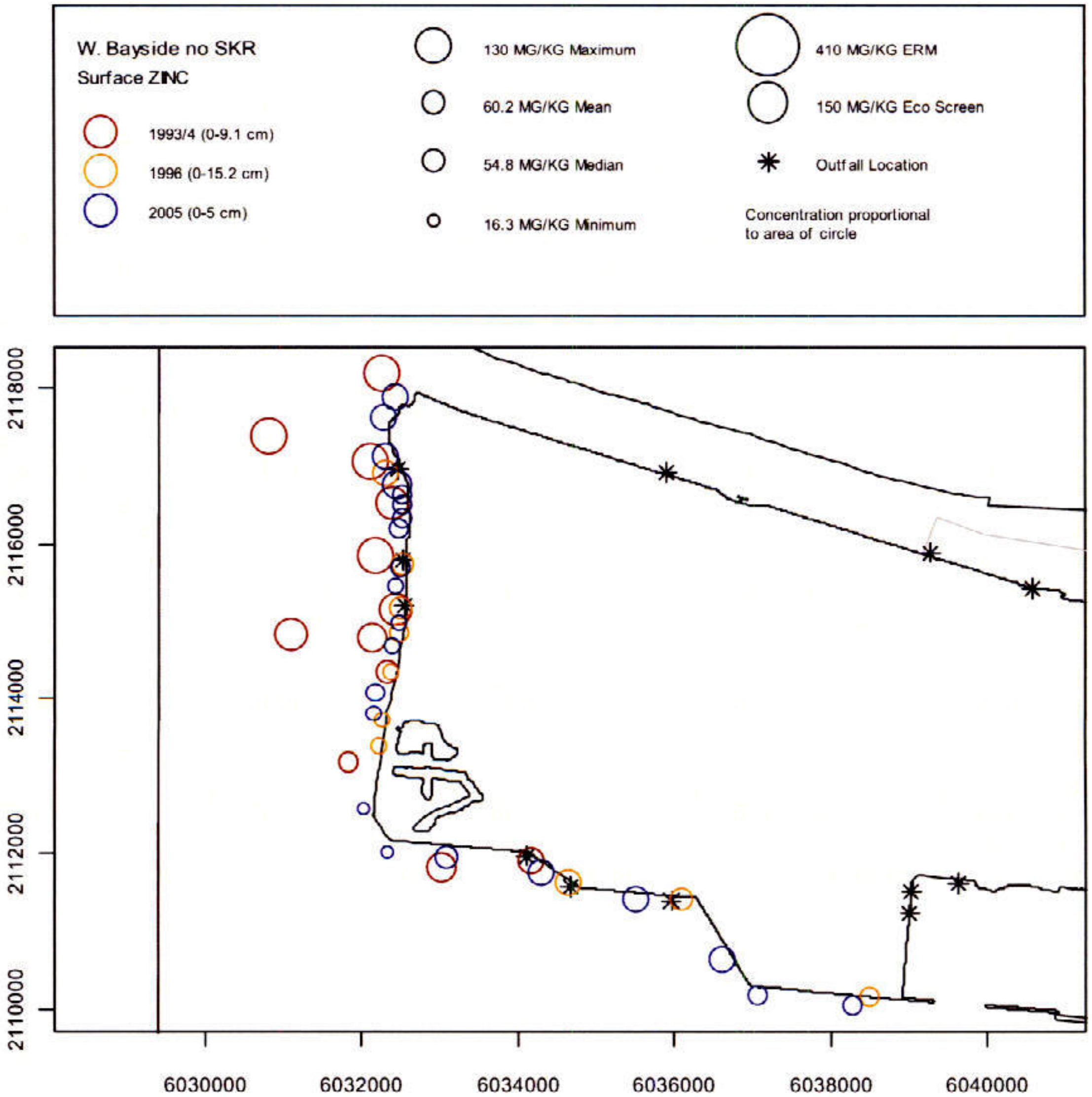

Figure 9. Bubble Plot of Zinc in Western Bayside Surface Sediment by Year.

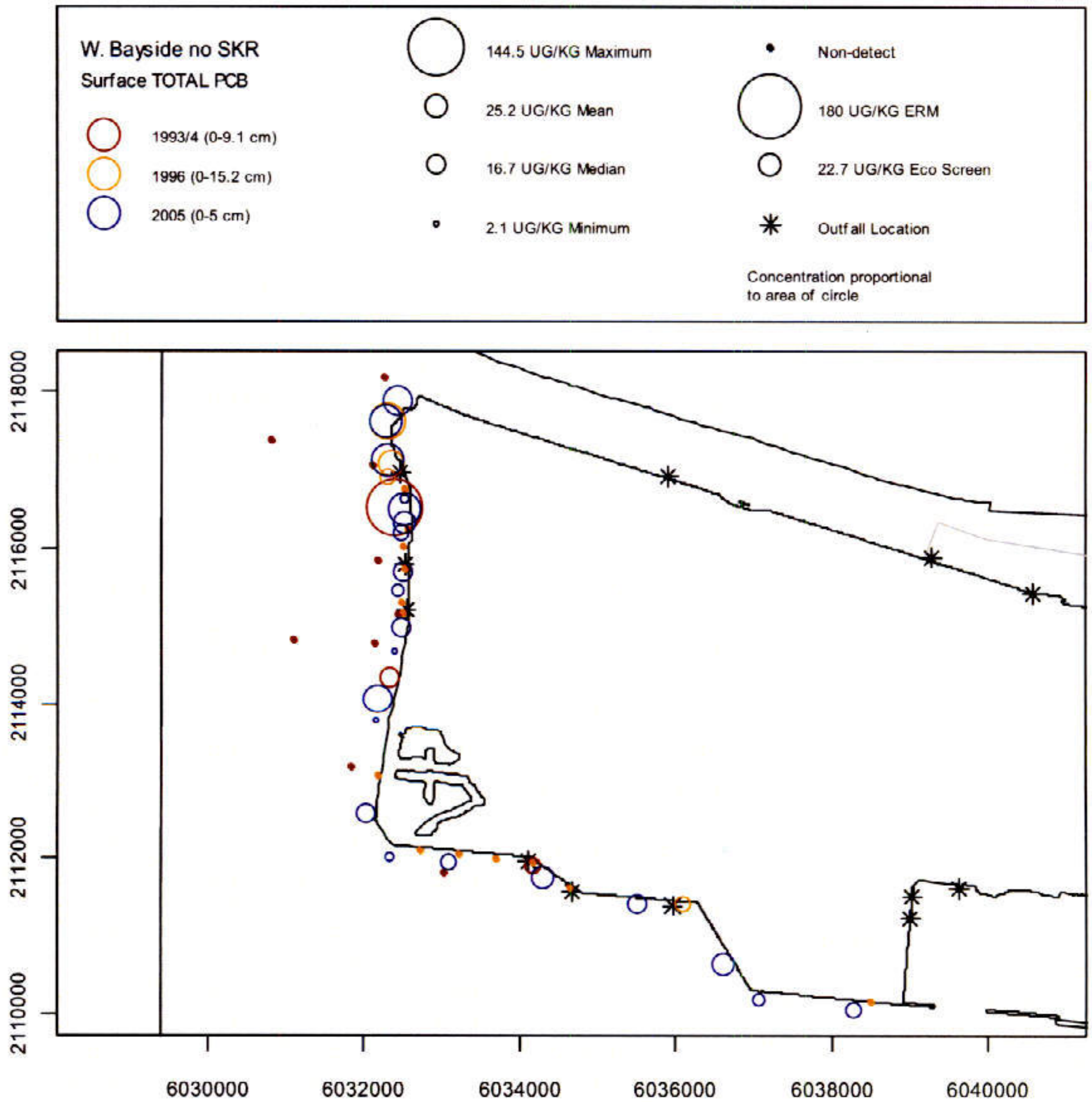

Figure 10. Bubble Plot of Total PCB in Western Bayside Surface Sediment by Year.

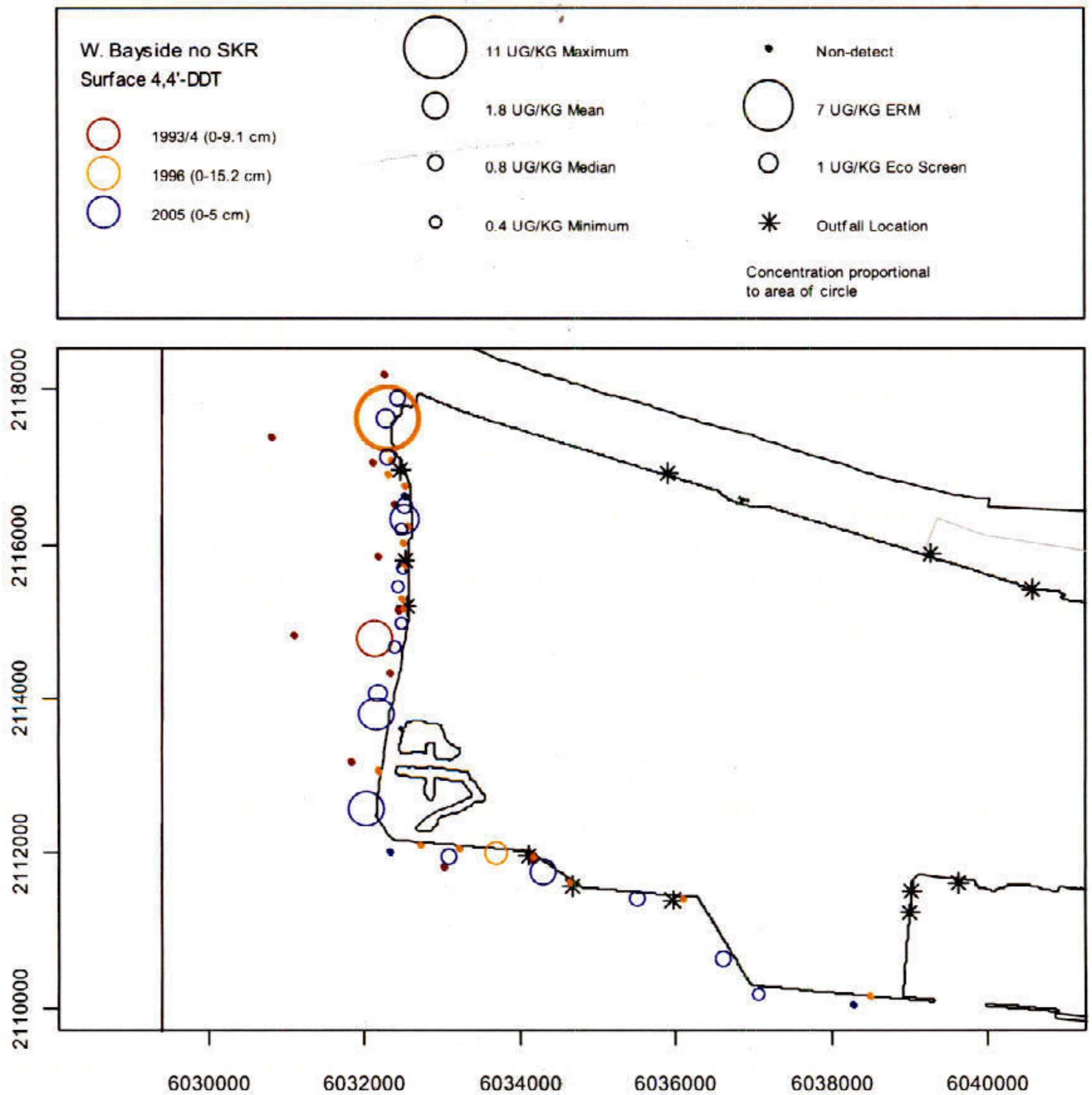

Figure 11. Bubble Plot of 4,4'-DDT in Western Bayside Surface Sediment by Year.